Medical education and intellectual disability: A survey of Australian medical schools

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A telephone questionnaire was administered to staff of Australian medical schools to determine the amount and nature of undergraduate teaching provided to students on the health care of people with an intellectual disability. Academic appointments in intellectual disability and the range of people involved in teaching were also recorded. Results indicate that medical schools differ widely in the amount of teaching offered and that this is influenced by the presence of academic appointments in intellectual disability. The strengths and weaknesses of curriculums are discussed and suggestions for maximising the quality of teaching are put forward. Concerns are also raised about intellectual disability being lost to more mainstream subjects, especially at a time when many medical schools are changing their curriculum to a problem based format.

INTRODUCTION

Medical training in intellectual disability has been subject to criticism for some time (Parmenter, 1988; Lennox, Diggens, & Ugoni, 1997). This criticism is strengthened by the growing concern that the standard of health care provided to people with intellectual disabilities is inadequate. There is evidence of early death, and high levels of unrecognised and poorly managed disease is well documented (Beange, 1986; Beange & Bauman, 1990; Beange, McElduff, & Baker, 1995; Beange, 1996; Crocker, 1990; Garrard, 1982; Howells, 1986; Lennox, Diggens, & Ugoni, 1997; Molony, 1993). In addition, the movement from institutional care to community-based care has increased contact between health professionals in generic services and adults with an

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intellectual disability. The medical practitioners likely to come into contact with this population include general practitioners, psychiatrists, surgeons, anaesthetists, ophthalmologists, accident and emergency doctors, family planning doctors, physicians and others. Clearly, health care of this population would benefit from these professionals having sound knowledge about the area of intellectual disability.

Most recently, a study by Lennox, Diggens, and Ugoni (1997) surveyed Australian general practitioners who had been practising medicine for 3 to 49 years, about their undergraduate education and training they had received specific to people with an intellectual disability. They found that 34.5% of general practitioners had received no undergraduate education in intellectual disability. Fifty percent had received visits to institutions, 40% had received lectures, and only 25% had received contact with people with intellectual disabilities on wards. In addition, 93% agreed that with further education and training they would be able to provide better health care for people with intellectual disabilities.

Other studies report common deficits or problems that are occurring in the teaching on intellectual disability. In a London medical school, Bradley (1988) found that 62% of graduates who felt their undergraduate training was helpful, still felt they needed more information, specifically in relation to service availability and communication skills with clients and families. Studies which assessed the nature and content of teaching in medical schools in the UK and the USA (Hollins, 1988; Lesser, 1986; Pilkington, 1977) noted the need for better coordination of teaching programs within and between departments, and the need for well defined goals and objectives in the course content. Interestingly, Kahtan et al. (1994) found that the range and content of teaching on disability and rehabilitation in medical schools in the UK, depended more on enthusiastic staff than specific guidelines or visions of what should be taught to the students.

Given these findings, this study aimed to document the amount and nature of undergraduate medical education on intellectual disability in Australia, as well as identifying strengths and weaknesses and determining strategies for improvement.

METHOD

A telephone questionnaire was developed, which documented the amount and nature of teaching on intellectual disability offered in each department at the ten medical schools in Australia. A paper-based structured interview schedule was used by a trained interviewer to record the interviewees’ responses. The questionnaire recorded very defined information about the number of hours of teaching, what proportion of students received the teaching, the methods of the teaching and assessment, and who taught the students. The questionnaire also recorded whether there were any academic appointments in intellectual disability in the various departments. The responses were not tested for inter-rater reliability.

A snowball sampling technique was used. This involved contacting each department either through academics known to the researchers, or through the relevant university department/year coordinator. The participants were virtually all academic psychologists, paediatricians, psychiatrists, or general practitioners, and occupied the
positions of heads of departments, course coordinators, and presenters. We believe telephone contact was made with all relevant teaching and organisational staff.

It is unlikely that any substantial teaching in intellectual disability was missed, due to the many contacts made with departments, and the level of staff spoken to. It is unlikely that any key people were missed in the search.

RESULTS

In reporting results, the department of “community medicine” has been used to encompass the departments of public health, general practice, community health, behavioural science, and social and preventive medicine. Most of the medical schools only had one of the above departments offering teaching in intellectual disability. Similarly, the department of “Psychiatry” has been used to encompass the departments of child, adolescent, adult or developmental psychiatry, while the department of “paediatrics” includes departments of child health, and community paediatrics.

In reporting the results, medical schools have been identified only by a number (seen in Table 1). This numbering is consistent throughout the article.

The telephone survey was performed in late 1995. At this time one medical school used a problem-based curriculum and three other schools were preparing to change their course to a problem-based curriculum in the following two years.

Academic appointments and hours of teaching

Nine departments of paediatrics, six departments of community medicine and seven departments of psychiatry offered teaching in intellectual disability. Compulsory for all students. On average, the paediatric departments offered the greatest hours of teaching, while the departments of psychiatry offered the least.

Optional units of teaching on intellectual disability were offered in five of the ten medical schools. The percentage of students in each medical school participating in these units of teaching ranged from 3% to 40%. On average, the departments of community medicine offered the most hours of optional teaching.

Six of the ten medical schools had academic appointments in the area of intellectual disability. In the paediatric departments, these academic staff were usually appointed in the broader field of developmental disabilities.

The hours of compulsory and optional teaching on intellectual disability and the presence of academic appointments in intellectual disability are shown in Table 1.
Table 1

Hours of teaching on intellectual disability and presence of academic appointments (AA) by department

<table>
<thead>
<tr>
<th>Medical schools</th>
<th>Paediatrics</th>
<th>Community medicine</th>
<th>Psychiatry</th>
<th>Total (hrs) compulsory</th>
<th>Total (hrs) optional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compulsory (hrs)</td>
<td>Optional (hrs)</td>
<td>Compulsory (hrs)</td>
<td>Optional (hrs)</td>
<td>Compulsory (hrs)</td>
</tr>
<tr>
<td>1</td>
<td>1 ( \text{hrs} )</td>
<td>2 ( \text{hrs} )</td>
<td>2 ( \text{hrs} )</td>
<td>4.5* ( \text{hrs} )</td>
<td>2 ( \text{hrs} )</td>
</tr>
<tr>
<td>2</td>
<td>3 ( \text{hrs} )</td>
<td>6 ( \text{hrs} )</td>
<td>Yes</td>
<td>5 ( \text{hrs} )</td>
<td>1 ( \text{hrs} )</td>
</tr>
<tr>
<td>3</td>
<td>6 ( \text{hrs} )</td>
<td>6-9 ( \text{hrs} )</td>
<td>Yes</td>
<td>6-9 ( \text{hrs} )</td>
<td>4 ( \text{hrs} )</td>
</tr>
<tr>
<td>4</td>
<td>6 ( \text{hrs} )</td>
<td>4 ( \text{hrs} )</td>
<td>4 ( \text{hrs} )</td>
<td>35 ( \text{hrs} )</td>
<td>19 ( \text{hrs} )</td>
</tr>
<tr>
<td>5</td>
<td>6.5 ( \text{hrs} )</td>
<td>10 ( \text{hrs} )</td>
<td>Yes</td>
<td>48 ( \text{hrs} )</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>8 ( \text{hrs} )</td>
<td>10.5 ( \text{hrs} )</td>
<td>Yes</td>
<td>4 day camp &amp; 36 hrs</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>9.5 ( \text{hrs} )</td>
<td>15.5 ( \text{hrs} )</td>
<td>Yes</td>
<td>1 ( \text{hrs} )</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* = approximations from best information available

AA = presence of person with academic appointment in intellectual disability in that department
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Teaching methods

All medical schools offered compulsory teaching in the form of lectures, seminars or tutorials. All medical schools except 1, 2, and 3 provided compulsory teaching involving direct contact with people with an intellectual disability and/or visits to community organisations.

Most optional teaching (77% of hours of teaching) was by direct contact with people with intellectual disabilities or visits to community organisations. See Table 2 for details on teaching methods.

Table 2
Methods of teaching

<table>
<thead>
<tr>
<th>Method of teaching</th>
<th>Compulsory teaching (percentage hours)</th>
<th>Optional teaching (percentage of hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>34%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Seminar/workshops</td>
<td>21%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Tutorials</td>
<td>11%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Visits¹</td>
<td>4%</td>
<td>29.6%</td>
</tr>
<tr>
<td>Direct contact²</td>
<td>30%</td>
<td>47.6%</td>
</tr>
</tbody>
</table>

¹Visits = visiting community organisations and family homes as well as talking/interacting with people working with or caring for people with intellectual disability. This involves minimal or no contact/interaction with people with intellectual disabilities.

²Direct contact = visits to clinics, institutions, community organisations, or family homes, where the student has direct contact with people with intellectual disability. This includes observing assessments performed by others.

Assessment of teaching

Sixty-four percent of compulsory units of teaching were assessed by examination (written, oral, multiple choice, or a combination of these modalities). Eighteen percent of compulsory units of teaching combined this style of assessment with a written assignment. Seven percent used skill assessment alone (7%) while 11% of units of teaching were not assessed or the assessment style was unknown.

All optional units of teaching were assessed by a combination of written assignments, class presentations, skill assessments, or an assessment of contribution. No optional units were assessed by an exam.

People involved in teaching

A wide range of people were involved in teaching both the compulsory and optional units offered to students. A third (36%) of all units of teaching (compulsory and optional) was taught exclusively by medical practitioners. Eighteen percent was taught exclusively by a variety of non-medical professionals, people involved in the area of intellectual disability, and people with intellectual disabilities themselves. Forty-three percent of teaching units were taught by a combination of both medical

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and non-medical practitioners. It was unknown who taught one unit of teaching. Medical schools 7, 8 and 9 reported the involvement of an adult and/or child with an intellectual disability in teaching. All medical schools except 4 and 5 employed people from both medical and non-medical backgrounds to be involved in teaching.

**DISCUSSION**

This study demonstrates that all undergraduate students in Australian medical schools are receiving some form of teaching on intellectual disability. Some medical schools have numerous hours of innovative, well-organised, comprehensive teaching on intellectual disability, covering issues in all departments, while other medical schools have very few hours of teaching, with obvious shortcomings. Other findings show that increased quantity of teaching seems to be related to the presence of academic appointments in intellectual disability. Most medical schools involve a wide range of people from medical and non-medical backgrounds in teaching. Compulsory units of teaching are taught predominantly by didactic methods, and are usually assessed by formal examination, while optional subjects appear to offer more opportunities to gain skills and experience with people with an intellectual disability, and assessment is more creative and varied. However, often only a small proportion of students participate in optional units of teaching and, overall, at least half the medical schools appear to have significant limitations in their curriculum.

Reports from the Australian general practitioners surveyed by Lennox, Diggens, & Ugoni (1997) found that 35% had received no undergraduate training in intellectual disability. In contrast, this study indicates that every medical student presently receives some form of teaching specific to intellectual disability. Although Lennox, Diggens & Ugoni’s study (1997) surveyed only general practitioners, this comparison suggests that medical schools have increased the amount of compulsory teaching offered on intellectual disability.

While some medical schools comprehensively cover issues of physical, developmental, and psychiatric health, and teach assessment and communication skills for people with an intellectual disability, many other medical schools provide very few hours of core teaching in this area, and leave teaching to chance encounters in clinical rounds. This limited amount of curriculum appears to be linked to the absence of academic appointments in the area of intellectual disability, similar to findings by Kahtan et al. (1994) in the UK.

The concern is that the health care of people with intellectual disability is perceived as a small area that is easily omitted from the curriculum of undergraduate teaching. However, as people with intellectual disability experience the range of usual health problems as well as syndrome specific health problems, every student at some stage will be the provider of health care to people with intellectual disability. Although many medical schools are faced with limited curriculum time and a lack of resources, a core curriculum on intellectual disability is therefore essential. A greater overall coverage on intellectual disability is therefore recommended in a number of the medical schools in this study.

Most compulsory teaching (measured in hours) was found to occur in the paediatric
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departments. However, the high prevalence of psychiatric disorders in people with an intellectual disability (American Psychiatric Association DSM-IV, 1994) and the known deterioration of health care in adulthood (Thomas, Bax, & Smyth, 1988) indicates that mental health issues and adult health care should not be ignored. Curriculum guidelines could be developed to help departments coordinate their teaching with other departments and ensure important aspects are not missed.

Most compulsory teaching was by didactic methods which are known to be effective at teaching knowledge and principles of behaviour (Gardiner, 1972), but less effective at transferring these principles into actual behaviour (Watson & Uzzell, 1980). Thirty-four percent of all hours of compulsory teaching, and 77% of all hours of optional teaching included visits to community organisations or direct contact with people with an intellectual disability. Traditional visits to institutions appear to be less common in both compulsory and optional teaching than reported in the survey of Australian general practitioners (Lennox, Diggens, & Ugoni, 1997). Instead, a range of positive and interesting opportunities have been provided in some medical schools for students to develop and apply practical knowledge and skills. However, three medical schools did not provide any compulsory teaching involving “hands-on” experience, and the optional units of teaching that provided these opportunities were limited to a small number of students. Increasing the amount of practical experience offered to students would be a very useful addition to a number of the medical schools’ curriculums.

A positive finding in this study was the diverse range of medical and non-medical people involved in both the compulsory and optional teaching in the majority of the medical schools. This suggests that the wide variety of health care issues affecting people with an intellectual disability is being conveyed to students. Involving individuals with an intellectual disability and their family and friends in teaching provides a unique perspective for students, and medical schools should continue to provide these opportunities to their students.

Telephone inquiries to a medical school with a problem based learning curriculum proved to be the most difficult. Little teaching was offered and no academic appointment in intellectual disability existed, partly explaining the difficulty. However, contrary to the way most other medical schools were organised, it appeared that no single person had a perception of what occurred in the area of intellectual disability throughout the course. The concern is that in the move to a problem based curriculum, teaching specific to intellectual disability may be lost due to the continual pressure on curriculum time. However, sufficient planning and coordination within year levels and between departments may prevent any loss of current curriculum, and instead may provide an invaluable opportunity to reassess the curriculum offered, and make significant changes and improvements for the future.

Results of this study should be interpreted in the light of its limitations. While there was potential for interviewer bias, this was minimised through the use of a highly structured questionnaire, with an interest in eliciting answers to very defined questions. There was very little scope for interpretation by the interviewer, and we believe the effect of interviewer bias is minimal. The other primary limitation is the chance that information was missed through interviewing inappropriate people. Again, we
feel that the chance of this is very low; extensive telephone consultation was undertaken through the various departments to identify the individuals most involved in this area.

In summary, providing a comprehensive and balanced curriculum on intellectual disability is paramount, particularly in an area of systematic neglect and devaluation. Efforts to improve the education delivered to students may be facilitated by developing specific objectives to teaching, ensuring better coordination between departments in achieving these objectives, and appointing people in the area of intellectual disability to ensure that these goals are carried out.

REFERENCES


