An international survey of the educational activities of schools of pharmacy on psychoactive drugs

J. Falkowski, A.H. Ghodse, R. Dickinson & I. Khan

A survey of the educational activities of schools of pharmacy on psychoactive drugs in 92 countries was carried out. All the schools which replied felt that there was a need for specific education on psychoactive drugs, and the majority felt that the rational use of such drugs should also be taught. Both the amount of teaching given and the methods used varied. This was particularly true for related subjects such as alternatives to psychoactive drug use. Almost a third of schools considered that they did not devote adequate time to psychoactive drugs and their rational use, and many would be grateful for specific educational guidelines in this area.

Introduction

In recent years there has been growing concern over problems that may occur with psychoactive drugs, including the development of dependence (1), the cost, and their widespread use (2), often in response to personal, interpersonal, and social problems (3). The importance of promoting the rational use of such drugs and the need to educate health care professionals on this subject has been recognized by WHO, one of whose initiatives was to organize a Working Group on the Role of Schools of Pharmacy in the Rational Use of Psychoactive Drugs.

Since little information was available on the amount of education given by schools of pharmacy on the rational use of psychoactive drugs, a global survey of such schools was carried out, and the results obtained are reported here.

Method

A questionnaire was constructed to determine the amount of teaching given on psychoactive drugs, the methods used, the stages of courses when the teaching was given, and who provided it. Questions on the amount of time spent on community pharmaceutical practice, counseling, alternatives to drug usage, psychiatry, alcohol-related disorders, and drug abuse were also included. The questionnaire was distributed to 553 schools of pharmacy in 92 countries.

Results

The schools of pharmacy were grouped geographically. Overall, 220 replies were received (40%), but the response rate varied greatly between regions (see Table 1) and individual countries.

Amount of teaching on psychoactive drugs

All the schools of pharmacy which replied indicated that they provided teaching on psychoactive drugs; the amount varied from 5 to 164 hours, with a mean of 36 hours.

The mean number of hours of teaching given on psychoactive drugs in each region is shown in Table 1. There was no consistent pattern as to the study year when such teaching was given since it varied markedly between regions as well as between individual schools of pharmacy.

Responsibility for teaching on psychoactive drugs and the methods used

The responsibility for teaching this subject fell on departments of pharmacology, therapeutics, clinical pharmacy, medical chemistry, pharmaceutical chemistry, and mental health. The majority of teaching was carried out by departments of pharmacology, which
provided an average of 21 hours of instruction (range, 4–160 hours) in 94% of the schools (see Table 1).

Among the methods used for this teaching were lectures, tutorials, seminars, laboratory practicals, clinical rounds, and computer-assisted learning exercises. All the schools of pharmacy used lectures, which accounted for 78% of the teaching overall. Altogether a mean of 25 hours of lectures was given, while the mean number of hours in each region is shown in Table 1.

**Changes in the teaching on psychoactive drugs from 1984 to 1988**

From 1984 to 1988, 32% of the schools of pharmacy increased the amount of teaching on psychoactive drugs by an average of 8.2 hours (range, 2–40 hours), the breakdown by region being shown in Table 1. Only 4% of schools reduced the amount of teaching on psychoactive drugs over the period covered by the survey (by an average of 1.5 hours) and of these, two were planning to increase the amount of teaching.

No schools were planning to reduce the amount of teaching on psychoactive drugs, and 20% of schools intended to increase the amount of such teaching by an average of 9 hours (range, 1–45 hours).

**Assessment of students’ knowledge**

Students’ knowledge on psychoactive drugs was specifically tested by 38% of the schools of pharmacy. These tests included essay questions, multiple-choice questions, oral examinations, and questions in final assessments. There were large differences between the regions studied, with 75% of North American schools specifically testing students’ knowledge on psychoactive drugs, whereas only 15% of the schools in South America specifically tested this (see Table 1).

**Teaching on related subjects**

Teaching on alcohol and alcohol-related disease was given in 77% of the schools of pharmacy (mean, 2.8 hours), on drug dependency in 87% (mean, 4.3 hours), and on psychiatry in 60% (mean, 6.7 hours) (Table 2).

An average of 12.4 hours of teaching on counseling was given by 36% of schools of pharmacy, while community pharmaceutical practice was taught in 50% of them (mean teaching time, 85 hours) (Table 2).

The time devoted to teaching alternatives to psychoactive drug usage varied greatly, with 41% of schools providing some teaching (mean, 3.5 hours; range, 1–10 hours) (see Table 2).

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### Table 1: Teaching on psychoactive drugs: results of the global survey of schools of pharmacy

<table>
<thead>
<tr>
<th>Region/country</th>
<th>Response rate (%)</th>
<th>Mean number of hours</th>
<th>No. of hours given by pharmacologists</th>
<th>No. of hours of lectures</th>
<th>No. of hours increased from 1984 to 1988</th>
<th>Tested students’ knowledge on psychoactive drugs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>40</td>
<td>38.5</td>
<td>27</td>
<td>22</td>
<td>6.5</td>
<td>45</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>14.6</td>
<td>52</td>
<td>25</td>
<td>24</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>North America</td>
<td>41.7</td>
<td>40</td>
<td>18.6</td>
<td>33.3</td>
<td>15.8</td>
<td>75</td>
</tr>
<tr>
<td>South America</td>
<td>15.7</td>
<td>37</td>
<td>14.4</td>
<td>20.4</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Japan</td>
<td>28.9</td>
<td>27</td>
<td>20.8</td>
<td>19.9</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Asia</td>
<td>15.7</td>
<td>37</td>
<td>21.8</td>
<td>30.2</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Africa</td>
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<td>64</td>
<td>13.3</td>
<td>25.5</td>
<td>2</td>
<td>80</td>
</tr>
<tr>
<td>China</td>
<td>67</td>
<td>20</td>
<td>14.5</td>
<td>15</td>
<td>3</td>
<td>16</td>
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</table>

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### Table 2: Teaching on subjects related to psychoactive drugs: results of the global survey of schools of pharmacy

<table>
<thead>
<tr>
<th>Region/country</th>
<th>Alcohol-related diseases</th>
<th>Drug dependency</th>
<th>Psychiatry</th>
<th>Counselling</th>
<th>Community pharmaceutical practice</th>
<th>Alternatives to psychoactive drug use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>2.5</td>
<td>3.7</td>
<td>6.4</td>
<td>8</td>
<td>57</td>
<td>1.8</td>
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<tr>
<td>Eastern Europe</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>110</td>
<td>0</td>
</tr>
<tr>
<td>Northern America</td>
<td>4.2</td>
<td>5</td>
<td>9</td>
<td>20.1</td>
<td>160</td>
<td>2.2</td>
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<tr>
<td>South America</td>
<td>2.8</td>
<td>8.2</td>
<td>2</td>
<td>16</td>
<td>73</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>1.6</td>
<td>3.3</td>
<td>5.5</td>
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<td>12.9</td>
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<tr>
<td>Africa</td>
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<td>3.3</td>
<td>2</td>
<td>15</td>
<td>10</td>
<td>5.5</td>
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<tr>
<td>China</td>
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<td>1.9</td>
<td>5.4</td>
<td>2.8</td>
<td>18</td>
<td>3.1</td>
</tr>
</tbody>
</table>
Teaching on anxiety and anxiety-related disorders was given by 78% of the schools (mean, 3.8 hours).

**Attitudes to teaching on psychoactive drugs**

Of the schools of pharmacy which replied to the survey, 87% believed there was a need for specific teaching on the rational use of psychoactive drugs. However, in Japan only 54% of schools felt there was such a need.

Overall, 32% of schools that replied thought that their students received inadequate teaching on psychoactive drugs, but there was an enormous range of opinions—from South America, where 74% felt that the teaching was inadequate, to eastern Europe, where all the schools felt that the teaching was adequate.

That psychoactive drugs are a subject that should receive greater coverage in courses was agreed upon by 84% of schools of pharmacy. The majority said they would be grateful to receive not only broad teaching aims and objectives from WHO, but also specific suggestions on teaching methods and approaches to the problem.

**Discussion**

Overall, the response rate to the survey was disappointing. However, it was carried out as a postal survey and the questionnaire was only sent once to each school. The response varied considerably from one country to another and was higher in English-speaking countries, which is perhaps not surprising since the questionnaire was not translated into other languages. However, this is the only information of this nature available at present and it does provide an indication of current educational activities on and attitudes towards psychoactive drugs.

A number of respondents commented that it was difficult to quantify all the teaching the students received and they also stressed the importance of informal teaching. This is often very valuable, but it is essential that students receive sufficient formal teaching to ensure that psychoactive drugs are covered adequately.

Although there were differences in the amount of teaching given on psychoactive drugs and in the methods used, all the schools of pharmacy provided teaching on this topic, and the amount compares favourably with that given to medical students in the United Kingdom. While there were variations between regions, a third of schools carried out specific tests of students' knowledge on psychoactive drugs, whereas no medical schools in the United Kingdom specifically tested this topic. It is encouraging that many schools have recently increased or were planning to increase the amount of teaching they provided on psychoactive drugs, and there was considerably more teaching than on alcohol-related disease or drug dependency. However, teaching on alternatives to psychoactive drug use and anxiety-related disorders was only given in some schools, and the amount given varied greatly. This aspect requires further investigation, since not only has a recent population survey shown that 10% of the adult population in the United Kingdom are using or have recently used psychoactive drugs but the efficacy of alternatives to drug use has been amply demonstrated.

There is cause for concern that while almost all the schools agreed that psychoactive drugs and their rational use were important, almost a third felt their teaching of these topics was inadequate. A number of schools stressed the difficulty of devoting more time to psychoactive drugs in an already crowded timetable. The majority of schools that replied would welcome advice on teaching aims and objectives from WHO, and felt that WHO's initiatives in this area would be effective.

**Acknowledgements**

We thank Mrs C. Scott for her secretarial and administrative support for this study.

**Résumé**

*Enquête internationale sur la place accordée aux médicaments psychotropes dans les programmes des écoles de pharmacie*

Depuis quelques années, l'utilisation généralisée des psychotropes est un sujet de préoccupation. Il est admis que la formation des professionnels de la santé tient une place essentielle dans les mesures visant à favoriser l'utilisation rationnelle de ces médicaments. Une enquête à l'échelle mondiale a été entreprise dans les écoles de pharmacie pour obtenir plus de renseignements sur l'importance quantitative de l'enseignement consacré à ce sujet et la forme qu'il revêt. A cette fin, un questionnaire portant sur le nombre d'heures consacrées aux médicaments psychotropes, les méthodes utilisées et des questions connexes a été envoyé à 553 établissements de 92 pays. Le taux de réponse global a été de 40% avec des différences considérables d'un pays à l'autre. En moyenne, chaque école consacre 32 heures d'enseignement aux médicaments psychotropes. Cet enseignement est dispensé par un certain nombre de départements dont le plus souvent cité est celui de pharmacologie. La méthode la plus utilisée est celle des cours magistraux, mais il en existe de
nombreuses autres, dont les travaux pratiques, et dans certains cas les exercices assistés par ordinateur. Un tiers des écoles de pharmacie ont accordé une place accrue aux psychotropes dans leur enseignement au cours des cinq dernières années et 20% prévoient d'en faire autant. De nombreuses écoles vérifient les connaissances des étudiants sur les psychotropes, mais la proportion de celles où il existe des examens spéciaux à cette fin varie de 75% en Amérique du Nord à 15% en Amérique du Sud.

Le temps consacré aux psychotropes dans les programmes d'enseignement se compare favorablement au temps consacré aux maladies liées à l'alcool, à la pharmacodépendance et aux sujets connexes. Les écoles de pharmacie estiment que la question des psychotropes est importante, mais un tiers d'entre elles jugent leur enseignement insuffisant dans ce domaine et 84% estiment qu'elles devraient le développer; 87% considèrent que l'usage rationnel de ces médicaments devrait faire l'objet d'un enseignement spécifique. La majorité des établissements souhaiteraient que l'OMS définisse les grands objectifs de cet enseignement et qu'elle offre des conseils précis sur les stratégies et les méthodes à adopter.

References