

Motivations of MPharm students in the United Kingdom to study pharmacy at a time of change

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Abstract

Background: In the United Kingdom (UK), pharmacy student numbers are increasing as the number of pharmacy schools increases. This is likely to have a negative impact on employment opportunities at a time when new entrants to UK pharmacy schools are paying dramatically increased tuition fees. Moreover, proposed changes to the Master of Pharmacy (MPharm) programme, with pre-registration training integrated into undergraduate education has profound implications for the future student experience.

Aims: To identify the main factors which influenced the decision of current students at one UK school of pharmacy to study pharmacy, and those factors which would have impacted on that decision if faced with pay tuition fees of £9,000 (\$14,700). Also, the study aimed to gather students' opinions on the impact of increased fees on the number of pharmacy applicants, and whether their preference is for a four-year MPharm course or a five-year integrated programme.

Method: Questionnaires were distributed to pharmacy students of all four years at the School of Pharmacy and Biomedical Sciences, University of Central Lancashire (UCLan), Preston, UK; in the academic year 2011/2012.

Results: A response rate of 88.6% (n=133) to the questionnaires was achieved. The main factor influencing pharmacy students' decision to study pharmacy was their interest in pharmacy, though they believed if they had to pay increased tuition fees, then the financial rewards of a pharmacy career would be most important. Fifty-seven percent (n=76) of the students felt the number of students applying for pharmacy would decrease as a result of the rise in the tuition fees, whilst 71% (n=95) preferred the current four + one MPharm course structure rather than the proposed five-year integrated course.

Conclusion: Reasons for studying pharmacy were multi-factorial. However, with increased tuition fees, financial considerations were considered a greater motivator, potentially conflicting with the traditional core values of pharmacy, namely service-orientation and altruism. The proposed integrated five-year MPharm is not yet defined, but appeals less than the present structure to current students. Changes to the degree programmes and higher tuition fees may potentially impact negatively on future applications to study pharmacy.

Keywords: *Education, Fees, MPharm, Pharmacy, Student, University, United Kingdom*

Introduction

The Modernising Pharmacy Careers (MPC) report to Medical Education England (MEE) in the UK proposed changing the Master of Pharmacy (MPharm) course structure from a four-year undergraduate course, followed by 1 year of pre-registration training, to a five-year integrated course (Smith & Darracott, 2011). The proposal is for one six-month placement incorporated at the start of year four and a further six months' placement at the end of year five. It is envisaged that these changes will allow students to learn in the context of contemporary pharmacy practice and will assure the content and quality of the early career education of pharmacists through to registration with the General Pharmaceutical Council.

This major restructuring of the undergraduate pharmacy programme is proposed at a time when the number of students enrolled on pharmacy courses has been rising inexorably for more than a decade. In England, student numbers have risen from 4,200 in 1999 to 9,800 in 2009 (Smith & Darracott, 2011). There has been a commensurate increase in pharmacy graduates and those entering the pharmacy profession following successful completion of the pre-registration training. Thus, in 2012, 2,342 candidates passed the pre-registration examination compared to 1,392 in 2002, a 68% increase over ten years (Pharmaceutical Journal, 2012a). Such dramatic changes result from both increased enrolments by existing pharmacy schools, and an increase in the number of schools in the UK from 16 before 2003 to 26 at

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present, with two new schools admitting students in 2013 and a third recruiting in 2014. Such dramatic and persistent increases in student enrolments may result in decreased staff to student ratios, drive changes in the ways students are taught and assessed, with fewer face-to-face contacts between students and pharmacy academics (Taylor *et al.*, 2004).

The increase in pharmacy student numbers reflects a general expansion of higher education over the past decade in the UK and the need to expand the pharmacy workforce to address historical workforce shortages. However, there has recently been a significant reduction in vacancies for hospital pharmacist posts (National Health Service, 2011) and there is evidence of oversupply of community pharmacy locums, which in the difficult economic climate has resulted in reduced rates of pay (Pharmaceutical Journal, 2011; Pharmaceutical Journal, 2012b). The British Pharmaceutical Students' Association has recently expressed concern that expanding student numbers will create an imbalance between graduates and pre-registration training places, with consequent unemployment for future pharmacy graduates (British Pharmaceutical Students' Association, 2012). However, it can also be argued that a supply of pharmacists, excess to demand, might push up quality within the profession, with the most able students/pharmacists finding employment.

Consequently, a pharmacy degree, which has historically been associated with 100% highly paid employment for graduates in the UK may, in the future, become less attractive to prospective undergraduates, who from September 2012 face a large increase in the tuition fees associated with their university education. Tuition fees were originally £3,000 per year when they were announced in 2004 and increased to £3,250 (\$5,300) (academic year 2011/2012). These have increased substantially to £6,000-£9,000 (circa \$10,000-15,000) for the academic year 2012/2013, with the large majority charging £9,000 (circa \$15,000) per year. The increase in fees is used to off-set the reduction in Government core funding for university teaching and reflects the higher earning potential of university graduates compared to comparable non-graduates. Under the new regime, following four years of study, pharmacy students will have a tuition fee debt of £36,000 (circa \$59,000) and an estimated maintenance debt of £22,000 (circa \$36,000) (British Pharmaceutical Students' Association, 2012). Currently, pre-registration trainees receive a salary and pay no tuition fees in this year. It is unclear how this financial arrangement would change with integration of the pre-registration year into the MPharm programme.

Taken together, these changes may impact significantly on the desire of students to undertake studying for a pharmacy degree and could potentially alter the profile of future pharmacy students in the UK.

The aim of this study was to determine the factors which influenced students in one UK school of pharmacy to study pharmacy, and how these might change if these students had faced the new tuition fee regime. Students were also questioned about their opinions on the proposal for an integrated five-year MPharm curriculum.

Method

This was a cross-sectional survey; questionnaires were distributed to MPharm students of all four years in the academic year 2011/2012; studying at the School of Pharmacy and Biomedical Sciences at the University of Central Lancashire (UCLan). Questionnaires were distributed at the beginning of the lectures and collected at the end, with students having had time for completion of the forms. An announcement was made at the beginning of the lecture regarding the questionnaire to allow each individual to decide whether they wanted to participate. This methodological approach was adopted to maximize the response rate.

The questionnaire comprised 22 questions which were developed and refined following discussions between the MPharm student who distributed the questionnaires and the supervisory team. The study was conducted February-April 2012 (*i.e.* before the tuition fees rise was imposed). The questionnaire was conducted anonymously after completion of a consent form. Each participant indicated his/her age, gender and ethnic group and ticked which factor most influenced their decision to study pharmacy. They were then asked what factors would influence them in a situation where they were to be charged a tuition fee of up to £9,000 per year, the likely impact on the number of applications to study pharmacy at UCLan and the MPC plans for reform of the MPharm programme. For each question in the questionnaire, based on the total number of respondents, the percentage of students selecting each answer was calculated and presented as histograms.

Ethical approval

Before distributing the questionnaires, ethical approval for this study was obtained from the Ethics and Health and Safety Committee, School of Pharmacy and Biomedical Sciences, University of Central Lancashire. A risk assessment was also conducted and approved. All participants completed a participant consent form, and data were anonymised.

Results and Discussion

Questionnaires were distributed to 150 pharmacy students, and a response rate of 88.6% (n=133) was achieved. Amongst these, 63% (n=84) were female and 37% (n=49) were male. The higher proportion of women than men studying for a pharmacy degree (Basse, 2012) and in the pharmacy profession (Hassell *et al.*, 2000; Hassell *et al.*, 2006) have been previously reported. As with a previous report for all UK pharmacy schools (Basse, 2012), the largest ethnic group of pharmacy students at UCLan was "Asian" (70% of males and 70% of females), followed by "White" (19% of females; 16% of males).

A student's decision to study pharmacy may be influenced by their sex and/or ethnic background. For instance, a study of the career intentions of pharmacy undergraduates, found that 71% of ethnic minority men had a clear idea about their future practice compared to 57% of white men (Willis *et al.*, 2008), moreover these authors suggested that career intentions were

interplay of sex and ethnicity. Thus, findings of this study may be influenced by the higher percentage of students who belong to the Asian ethnic group at the UCLan's School of Pharmacy, and these findings may not correlate with some other pharmacy schools in England if the same questionnaires are to be used.

Factors influencing students' decisions to study pharmacy

Many factors were reported as influencing students' decision to apply to study pharmacy (Figures 1 & 2). The most commonly reported influential factor was their interest in pharmacy and medicines (males: 26.5%, n=13; Figure 1 and females 23.0%, n=19; Figure 2). These students are consequently likely to be highly motivated, having embarked on a course and career which stimulates and interests them. Moreover, for both sexes, an interest in medicines and the pharmacy profession was more important in their degree choice than financial remuneration. This sense of vocation and altruism are core features of a health care professional (Harding & Taylor, 2001).

Figure 1: The factors that most influenced male students to study pharmacy and the factors that would most affect them if they were to apply in 2012 with a tuition fee of up to £9,000 (n=49).

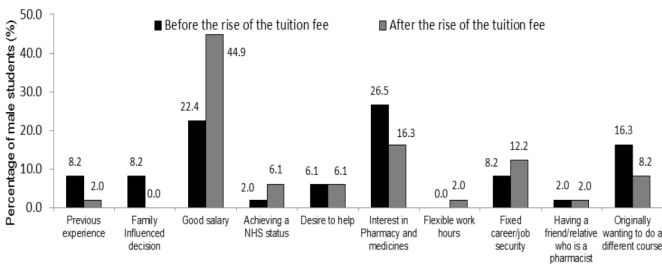
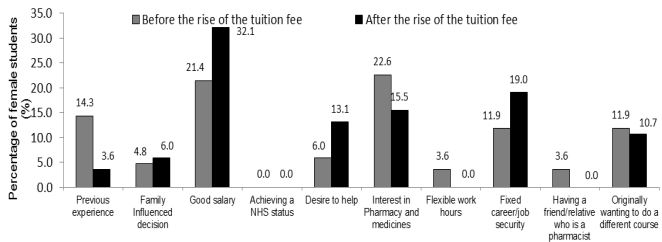


Figure 2: The factors that most influenced female students to study pharmacy and the factors that would most affect them if they were to apply in 2012 with a tuition fee of up to £9,000 (n=84).



However, when students were asked what factors would affect their choice if they had to pay a £9,000 per year tuition fee, the importance of an interest in pharmacy and medicines decreased markedly. Faced with a much higher tuition fee, the most important motivator to study pharmacy became remuneration (male: 45%, n=22, female 32.1%, n=27) (Figures 1 & 2).

This is rational, as students paying the raised tuition fee will incur a large debt of £36,000 (circa \$59,000) for tuition fees alone, plus other expenses, such as accommodation costs. Of

course it is hypothetical and these students are not in reality being called upon to make such judgments in reality. These students believe that they would look to Pharmacy, as a university degree, particularly because it would offer a good salary. However, service-orientation and altruism, rather than personal financial gain are characteristic of professionals. If the motivations of those entering the pharmacy profession are changed as a consequence of the raised tuition fee, the characteristics of the student body and ultimately the profession may change. Moreover, if students become more focused on the financial security offered by a degree, rather than being motivated by the subject itself, such students may be less interested in and motivated by their studies with a consequent impact on student performance and retention. It is also unknown whether the salaries of pharmacists in the UK will continue to be high, taking into account recent increases in the number of pharmacy schools and pharmacy graduates. Also, unlike the UCLan School of Pharmacy which serves the need of local students in the county of Lancashire, other schools of pharmacy recruit higher percentages of overseas students, for whom fees have not risen substantially. It is much more difficult to analyse the factors that might affect the decision of overseas students to study pharmacy in the UK, considering the huge diversity of those students in terms of their culture, religion and ethnicity and in terms of their intentions to work in the UK or their countries following graduation.

Whilst pharmacy is currently an attractive, highly remunerated career option at present, the projected over production of pharmacy graduates in relation to pre-registration placements and work as pharmacists (British Pharmaceutical students' Association, 2012) will, by application of market forces, be likely to lead to reduced pay in the future. This is already evident in reduced rates of pay for locum pharmacists (Pharmaceutical Journal, 2011). In such circumstances, the attractiveness of pharmacy as a degree to students, such as those questioned in this study, will be diminished, with potentially a consequent decrease in applications to study pharmacy. A reduction in pay may obviate against the changes, described above whereby altruism as a motivator is replaced by the quest for financial reward.

Another important factor that influenced students' choice of pharmacy was that they had originally wanted to study a different professional degree, such as medicine or dentistry but were rejected, and chose pharmacy as an alternative. This represented 16% (n=8) of male and 12% (n=10) of female students (Figures 1 and 2 respectively) and agrees with previous findings that students rejected from degrees, such as medicine, chose pharmacy (Taylor & Harding, 2007; Willis *et al.*, 2009). Wills *et al.*, (2006) reported that for approximately 25% of students approaching the final year of the MPharm, pharmacy was not their first choice course; whilst Taylor and Harding (2007) interviewing students in 4 pharmacy schools found that pharmacy was often a "default" degree for students having failed to attain entry into medicine or dentistry.

With the rise of the tuition fee, it is possible that more students will apply for dentistry and medicine as they are seen as traditionally highly remunerated professions (though in community pharmacies there are still opportunities for high salaries). This might impact on pharmacy, by drawing away the most able students. On the other hand, there may be even more students who failing to attain a place on heavily

oversubscribed medical and dental degree courses, apply to study pharmacy as “the next best thing”. Such students may be less satisfied with an undergraduate pharmacy course, than those who actively selected pharmacy as a first choice (Willis *et al.*, 2009). It would be interesting in the future to interview students who chose to study pharmacy, having been unsuccessful applying for medicine or dentistry courses. Our study was limited by its anonymous nature and limited time and financial resources.

Having a friend or relative as a pharmacist may attract students to study pharmacy, as does having previous relevant experience. Moreover, both male and female students indicated that their families influenced their decision to study pharmacy (Figures 1 & 2). Some of these factors have been identified previously (Ferguson *et al.*, 1986; Taylor & Harding, 2007; Willis *et al.*, 2009). Willis *et al.* (2008) found that having previous work experience was a major factor in a student’s decision to study pharmacy. This investigation found 14% of female students (Figure 2) chose pharmacy due to having previous pharmacy experience compared to 8% of males (Figure 1). However, for both males and females, having previous work experience would be considered a far less important factor if they were required to pay higher tuition fees, with the need for a financially rewarding career overriding this, and indeed other factors. In this study, only 2% of male students and 4% of female students reported that having a pharmacist as a relative or friend was the most important factor that attracted them to pharmacy, compared to the other factors (Figures 1 & 2 respectively). This factor then seems less important than expected (Taylor & Harding, 2007) and may result from changes in the demographics of students studying pharmacy, the decline in numbers of family run independent community pharmacies, or may reflect the nature of the students who have chosen to study pharmacy at the newly established pharmacy school at UCLan.

In general, the factors which affected degree choice for female students were similar to those for their male counterparts. According to Hassell *et al.* (2000), the factor that particularly attracts women to pharmacy is the ability to work part time and flexible hours. However, in this investigation, this was found to be far less important than other factors. No female students predicted this to be the main factor for studying pharmacy if they had to pay the £9,000 fee (Figure 2).

The effect of tuition fees on the number of pharmacy applicants

The majority (57%, n= 76) of students predicted that the number of students applying for pharmacy would decrease in September 2012 (Figure 3). Thus, a £9,000 (\$15,000) tuition fee was perceived as a major deterrent by these students to enrol for pharmacy. However, 34% (n=45) predicted that the number of new students would stay the same with 6.8% predicting an increase (Figure 3), probably reflecting that high pharmacy salaries might make pharmacy a more popular degree.

The majority of students (68.4%, n=91) agreed that if the tuition fee had been raised whilst they were applying to university, they would still have chosen pharmacy, whilst 23.3% (n=31) said they would not have considered pharmacy and 8.3% (n=11) did not know (Figure 4). In many respects,

Figure 3: Students perception of the effect of increased tuition fees on the number of applicants to study pharmacy (n=133).

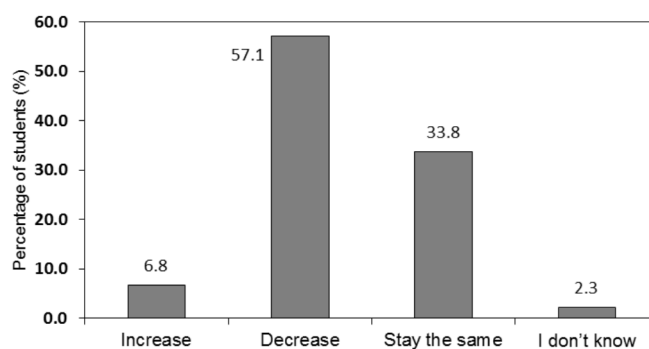
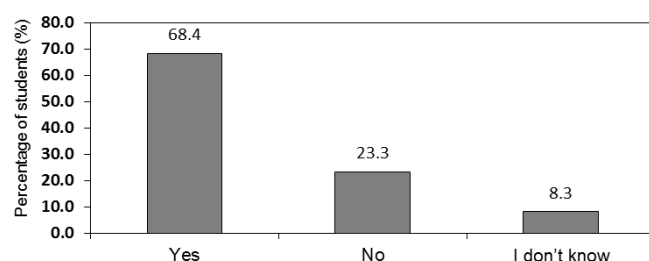


Figure 4: The opinions of current students on whether they would have considered studying pharmacy if they had to pay £9,000 as tuition fee (n=133).



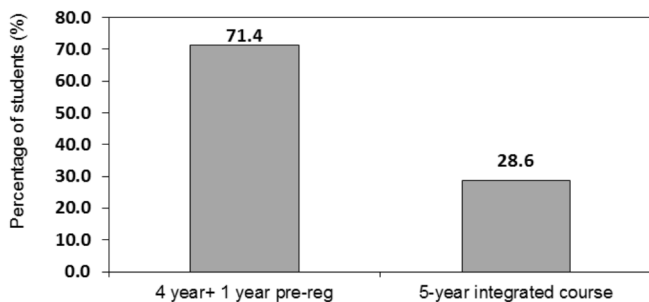
this is a positive result, indicating that the large majority of students who were already experiencing a pharmacy degree, perceived the value of their education even in the light of students, in the future, facing an approximate three-fold increase in tuition fees. This will reflect their overall satisfaction with the degree programme at UCLan which offers a recently developed practice-focussed curriculum with many pharmacy practice modules as well as work placements, dispensing workshops, (Objective Structured Clinical Examinations (OSCE) and patient counselling workshops. It is also likely to result from pharmacy’s reputation as a well remunerated profession with excellent employment prospects for recent graduates. However, approximately one quarter of the students indicated that they would not have studied pharmacy in the face of higher tuition fees (Figure 4), which reflects from their viewpoint a negative cost-benefit analysis of studying to be a pharmacist. This might be an indicator that in an era of increased tuition fees and more pharmacy undergraduate places available in universities, that recruitment of sufficient numbers of suitably qualified applicants may be problematic.

Restructuring of the MPharm programme

Students were asked whether they had a preference for the traditional four-year MPharm programme followed by a year of pre-registration training, or the model for the five-year integrated MPharm programme, as proposed by MPC (Smith & Darracott, 2011). The latter means that instead of having a full pre-registration year (after completion of the four years of study), a six month practice placement will be incorporated at the start of the fourth year and a further six months’ placement at the end of year five, hence sometimes

this programme of study is referred to it as “sandwich” degree. The large majority, (71%, n=95) stated that they preferred the MPharm degree in its current configuration. However, some students (29%, n=38) indicated that they would have preferred the 5-year integrated course structure, with two 6-month practice placements incorporated into the undergraduate programme (Figure 5). Clearly, these findings should be interpreted with caution as the students only have experience of UCLan’s conventional four + one course structure, Bradford School of Pharmacy being the only UK pharmacy school to offer a five-year “sandwich” degree (*i.e.* work placements “sandwiched” between courses taken at the university). Moreover, the integrated degree programme has still to be approved by the Department of Health and its implications for university funding, restrictions on student numbers and for student fees have yet to be established. However, these findings indicate that whilst the academic pharmacy community in England has largely accepted the need for an integrated degree programme, and can perceive the benefits of integration to allow knowledge to be acquired in a practice context, ensuring a continuum between undergraduate learning and embarking on a career as a pharmacist, students remain, as yet, unconvinced.

Figure 5: The preferred course structure by current UCLan pharmacy students (n=133).



Conclusions

The reasons students in the UK chose to study pharmacy were multi-factorial. High pharmacist salaries became the predominant factor when students considered the dramatic increase in university tuition fees. The majority of students indicated that even faced with higher tuition fees, they would still have chosen to study pharmacy, indicating that a pharmacy education and degree is highly valued. However, many students said they would not study pharmacy in these circumstances, which highlights potential problems for future student recruitment. Given the present state of knowledge, the majority of pharmacy undergraduates questioned at UCLan had a preference for the traditional four-year MPharm programme over the five-year integrated course. There is a possibility that such a negative perception, particularly if the MPC proposals result in students facing five years of tuition fees or forgoing a salary during their pre-registration training, may impact on student recruitment. This study is limited by the use of a quantitative methodology and being conducted in one school of pharmacy. This study needs to be expanded by considering other UK schools of Pharmacy. Also, conducting interviews with the students would allow a deeper understanding of the beliefs and motivations of students choosing to study for an MPharm degree.

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