Effect of the Nontraditional PharmD on Individual Practice Patterns

Nancy F. Fjortoft and Janet P. Engle
College of Pharmacy, University of Illinois at Chicago, Room 184E, m/c 874, 833 S. Wood Street, Chicago IL 60612

Graduates of the nontraditional PharmD program at one college of pharmacy were surveyed to determine the impact of the degree on individual practice patterns (N=172). Response rate was 60 percent. Results indicated that 69 percent reported receiving a promotion or changing jobs after obtaining the PharmD degree. Those individuals also reported performing less prescription processing (81 percent), more clinical activities (60 percent), more management activities (61 percent), more educating activities (75 percent), and more research activities (60 percent). The respondents also reported being significantly more intrinsically satisfied with their job after receiving the PharmD (Z=4.0697, P<0.001). Of the 31 percent respondents who did not receive a promotion or changed jobs, 62 percent reported a change in activities. Those individuals reported performing less prescription processing (81 percent), more clinical activities (87 percent), about the same amount of time performing management activities (43 percent), more educating activities (81 percent) and approximately the same amount of time performing research activities (62 percent).

INTRODUCTION

In 1994, David Knapp entitled his presidential address “Picking up the Pace...Nontraditional Education.”(1) In that presentation, he summarized the dramatic changes in pharmaceutical education and challenged educators to address the learning needs of practitioners. One aspect of that challenge is developing nontraditional academic programs which enable baccalaureate-trained pharmacists to obtain the doctor of pharmacy degree. Several such programs already exist. They primarily rely on distance learning techniques and are designed to allow practitioners to keep their full-time professional practice while doing academic coursework. Nontraditional PharmD programs are on the agenda of virtually every college of pharmacy in the country.

However, we believe that to guide planning, a basic and fundamental question must be addressed: Does obtaining the nontraditional PharmD degree make a difference in individual practice patterns? If practice patterns fail to change, and ultimately enhance the delivery of pharmaceutical care services, then practitioners obtaining the PharmD are merely performing an academic exercise.

Several earlier studies have examined the effect of degree on employment patterns and job satisfaction. Kodak-Kimble, et al. provided evidence on job satisfaction and choice of practice setting for entry-level doctor of pharmacy graduates(2). They found that the majority of entry-level PharmD graduates preferred to work in the hospital setting, and that most respondents were satisfied with their professional status and opportunities for advancement. Carroll, et al. examined the differences in job satisfaction, choice of practice setting, and activities between entry-level doctor of pharmacy graduates and postbaccalaureate doctor of pharmacy graduates. They found that entry-level PharmD’s exhibited lower levels of job satisfaction and were more likely to work in community pharmacies than postbaccalaureate PharmD’s(3). This may be more the result of simple maturation than degree choice. Ried and McGhan studied the differences between baccalaureate-trained pharmacists and entry-level PharmD practitioners and found some difference in choice of practice setting, but no difference in job satisfaction. Baccalaureate-trained pharmacists were more likely to be working in the community setting, and PharmD graduates were more likely to be working in the hospital setting(4). Cox and Carroll in their study comparing BS and PharmD graduates did not find any differences in job satisfaction and insignificant differences in activities(5). Pray and Popovich provided us with a more comprehensive picture of the postbaccalaureate PharmD practitioner. They found that 79 percent of their respondents reported working in a hospital, and the majority of those hospitals had medical school affiliations. They found that postbaccalaureate pharmacists were performing primarily clinical activities(6). Barnett and Matthews looked at practice patterns of three groups of pharmacists: BS, entry-level PharmD, and postbaccalaureate PharmD and found no differences in job satisfaction. However practice patterns did differ between postbaccalaureate PharmD’s and the other two groups. Postbaccalaureate PharmD’s were more likely to work in hospital environment(7).

There is now another hybrid on the degree market: the nontraditional PharmD. There was considerable debate over the viability of such a degree(8-10). Concerns were raised regarding program quality and competency of incoming students. Practitioners, on the other hand, feared being shut out of certain career pathways(11,12), and expressed widespread concern over career prospects without the PharmD. “Without a PharmD degree, I’ll be unemployable,” said one pharmacist(12). Whether or not these concerns were real, pharmacists perceived pressure to enhance their education and their credentials, particularly pharmacists employed in hospital settings.

Nontraditional PharmD programs are different from the traditional postbaccalaureate PharmD, and are designed for an entirely different audience than the entry-level PharmD(13). Students enrolled in nontraditional PharmD programs were found to be older, married, with children,
while on-campus students enrolled in postbaccalaureate PharmD programs were more often single and were younger with no children. The nontraditional student had almost three times as much work experience as the on-campus student, and the majority of nontraditional students came from hospital practice. Adults enrolled in nontraditional PharmD programs may have specific and unique motivations for pursuing the PharmD degree. Piascik, director of pharmacy services at the Rockford Clinic, stated, “My underlying motivations for getting my PharmD were to develop therapeutic cost-effective regimens, to gain additional respect from other members of the health care team, and to improve my own confidence and self-satisfaction.”

Given the characteristics of adult students enrolled in nontraditional PharmD programs, a natural question arises: Is the effort worth the costs? Not only are there costs associated with obtaining the degree, but also lost income. Personal costs associated with separation from home and family need also be considered.

The question remains, “What is the effect of the nontraditional PharmD on individual practice patterns?” Are the expenses and the personal sacrifices worth the benefits obtained from pursuing the nontraditional PharmD? Anecdotal information suggests that the knowledge and skills obtained through the nontraditional PharmD have changed individual practice patterns. For example McCallan said of his experience in a nontraditional PharmD program, “I am convinced that I am a better pharmacist because of my PharmD experience.”

Some empirical evidence suggests that the nontraditional PharmD degree does indeed affect practice patterns. Piascik, et al. surveyed the first 30 graduates of the nontraditional PharmD program at the University of Kentucky. They reported that 63 percent of the respondents to their survey implemented changes in their professional practice upon receiving the PharmD degree. Their responsibilities became more clinical in nature. It is unclear whether these changes occurred in a better or different job or in their previous position.

It is not surprising, given the relative youth of the nontraditional PharmD degree, that the literature provides little evidence of the effect of the nontraditional PharmD on practice patterns and job satisfaction. This project attempts to understand the effect of the nontraditional PharmD on individual pharmacist practice patterns and job satisfaction.

METHODS

Program Description

This college of pharmacy established its nontraditional PharmD curriculum in 1987. The program consists of 23 semester hours of didactic courses, designed for distance learning, and 20 semester hours of clinical rotations. The rotations require a full-time commitment to university-approved sites. The program enrolls students nationally. Approximately 150 students are enrolled in coursework during any given semester.

Questionnaire Development

A survey was developed to assess the changes in practice patterns and job satisfaction of graduates of the college’s nontraditional PharmD program (N=172). The survey was pilot tested on a sample of 10 practicing pharmacists to assure that the questions were clear and unambiguous. Based on the comments compiled from the pilot test, minor modifications were made on the survey. Specifically, the survey included questions on individual demographic characteristics, characteristics of most recent job as a BS graduate and characteristics of the most recent job as a PharmD graduate.

A review of current literature suggests that pharmacists are performing four broad categories of tasks or activities: (i) prescription processing; (ii) clinical pharmacy or pharmaceutical care; (iii) management; and (iv) education. A fifth category of research was added, given the expected affiliation of graduates with teaching hospitals. To determine changes in practice activities, respondents were asked if they were performing “more”, “about the same”, or “less” of each of the broad categories of activities since obtaining the PharmD.

Respondents were asked what they perceived to be the important benefits, if any, of obtaining the PharmD degree. The question included a list of factors, and respondents were asked to circle the response that best agreed with their perception. Responses included “not at all important”, “not too important”, “somewhat important” and “very important.”

The questions measuring job satisfaction were taken from the University of Michigan’s Quality of Employment Survey. These items were included to assess respondents’ levels of intrinsic job satisfaction. Respondents were asked to circle the level of agreement to the item statement. The questions were coded 1=not at all true, 2=not too true, 3=somewhat true, 4=very true. An example of the statements is “I am given a lot of freedom to decide how I do my own work”. These questions have been used to assess pharmacists’ intrinsic job satisfaction by others. A copy of the complete survey is available from the authors upon request.

Procedure

The survey and a detailed cover letter were mailed to all graduates of the program (N=172). This included graduates from 1988 to 1994. Address labels for the study population were obtained from college records. The survey was accompanied by a personally signed cover letter, and a return postage paid envelope. Follow-up reminder letters and a second copy of the survey were sent out to nonrespondents approximately six weeks later.

Variables

Two compound variables measuring intrinsic job satisfaction were computed from the 12 individual items assessing job satisfaction at two points in the respondent’s career. The first scale, composed of six items, assessed job satisfaction with the respondent’s last position as a BS-trained pharmacist and exhibited a coefficient alpha of 0.8814. The second scale, composed of the identical six items, assessed job satisfaction with the respondent’s current position as a PharmD-trained pharmacist and exhibited a coefficient alpha of 0.8976. Both scales were determined to be reliable measures of the construct intrinsic job satisfaction.

Analysis

The purpose of this study was exploratory. Therefore, analysis was limited to descriptive statistics, and the Wilcoxon test to examine changes in job satisfaction from last BS position and current PharmD position. The Wilcoxon test is the appropriate test for the two-sample case with dependent
Table I. Description of the sample (N=83)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37</td>
<td>45.0</td>
</tr>
<tr>
<td>Female</td>
<td>46</td>
<td>55.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 or younger</td>
<td>7</td>
<td>8.0</td>
</tr>
<tr>
<td>31 to 35</td>
<td>17</td>
<td>20.0</td>
</tr>
<tr>
<td>36 to 40</td>
<td>28</td>
<td>34.0</td>
</tr>
<tr>
<td>41 to 45</td>
<td>18</td>
<td>22.0</td>
</tr>
<tr>
<td>46 to 50</td>
<td>8</td>
<td>10.0</td>
</tr>
<tr>
<td>51 or older</td>
<td>5</td>
<td>6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, non-Hispanic</td>
<td>73</td>
<td>88.0</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>Asian</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>12</td>
<td>14.5</td>
</tr>
<tr>
<td>Married</td>
<td>66</td>
<td>79.5</td>
</tr>
<tr>
<td>Divorced or Widowed</td>
<td>5</td>
<td>6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Dependent Children</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>32</td>
<td>38.0</td>
</tr>
<tr>
<td>1</td>
<td>13</td>
<td>16.0</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>26.5</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>14.5</td>
</tr>
<tr>
<td>4 or More</td>
<td>4</td>
<td>5.0</td>
</tr>
</tbody>
</table>

samples for ordinal data. This test is commonly used in designs that involve a pre- and posttest situation(19). Data was analyzed using SPSSX(20). The statistical significance level was established a priori at 0.05 due to the sample size.

RESULTS

Thirty-five surveys were returned to the college because of incorrect address, leaving a viable sample of 137. Eighty-three usable surveys were returned to the college for a response rate of 60 percent. A complete description of the sample is presented in Table I. The typical graduate is between 36 and 45 years of age, is white, married with children. The sample was roughly equal in gender distribution. Interestingly, contrary to popular college beliefs, only 10 percent of the respondents received full employee tuition reimbursement, and 24 percent paid for tuition and fees entirely from their own resources.

Practice Sites

Ninety-four percent of the respondents have remained in pharmacy upon completion of the PharmD. Six percent were not employed as pharmacists at the time of survey completion. Table II presents the practice settings of the respondents, and includes both their last practice setting as a BS-trained pharmacist and their most recent practice setting as a PharmD. The majority of the respondents began their studies while practicing in either a community or teaching hospital (83 percent). The majority of the respondents continued to practice in either a community or teaching hospital after receiving their Pharm.D, but the total percentage declined to 63 percent. Many of the respondents chose to go into alternative practice settings upon receiving the PharmD (23 percent). Respondents described their “other” practice setting as: long term care, home health care, government hospital, consulting, and managed health care.

Table II. Career movement of nontraditional PharmD graduates

<table>
<thead>
<tr>
<th>Last BS job</th>
<th>Current PharmD job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community—Independent</td>
<td>Community—Independent</td>
</tr>
<tr>
<td>Community—Chain</td>
<td>Community—Chain</td>
</tr>
<tr>
<td>Community—Hospital</td>
<td>Community—Hospital</td>
</tr>
<tr>
<td>Teaching—Hospital</td>
<td>Teaching—Hospital</td>
</tr>
<tr>
<td>Industry</td>
<td>Industry</td>
</tr>
<tr>
<td>HMO</td>
<td>HMO</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
</tr>
</tbody>
</table>

# Graduates

<table>
<thead>
<tr>
<th># Graduates</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>57</td>
<td>69%</td>
</tr>
</tbody>
</table>

Fig. 1. Promotions and job changes after obtaining nontraditional PharmD degree. (N=83)

# Graduates

<table>
<thead>
<tr>
<th># Graduates</th>
<th>Less</th>
<th>About the same</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>42</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

Fig. 2. Changes in activities of nontraditional PharmD graduates who received a promotion or changed jobs. (N=57)

Career Movement and Changes in Activities

When asked the question “Have you received a promotion or changed jobs since you received the PharmD degree?”, 69 percent responded yes (N=57, see Figure 1). When asked what their new job title was, respondents reported “Supervisor of Clinical Pharmacy Services”, “Director”, “Assistant Director”, “Clinical Pharmacy Manager” or “Clinical Coordinator” to name a few of the more prevalent titles. Respondents were also asked to compare the activities of their new position as a PharmD with their
last position as a BS-trained pharmacist. Eighty-one percent reported performing less prescription processing. Sixty percent reported performing more clinical activities, 61 percent reported performing more management activities, 75 percent reported performing more educational activities, and 60 percent reported performing more research activities. The results are presented in Figure 2.

The respondents that did not change jobs or receive a promotion were asked if their activities changed in their current job since receiving the PharmD degree. Sixty-two percent responded yes (N=16, see Figure 3). When asked how their activities changed, the respondents reported performing less prescription processing (81 percent), more clinical activities (87 percent), approximately the same amount of time performing management activities (43 percent), more educational activities (81 percent), and approximately the same amount of time performing research activities (62 percent). The results are presented in Figure 4.

**Job Satisfaction**

The results of the Wilcoxon test indicate that the respondents exhibited significantly higher levels of satisfaction with their position as a PharmD than their last position as a BS-trained pharmacist (Z=-4.0697, P<0.001). The mean response for PharmD job satisfaction was 3.24 and the mean response for BS job satisfaction was 2.91. The range was from 1 to 4;

**Perceived Benefits to Obtaining Degree**

The results of the question on perceived benefits to obtaining the PharmD degree are presented in Table III. Respondents ranked “improved clinical skills”, “better patient care”, and “remain current with knowledge” as the three most important benefits of obtaining the PharmD degree. Being considered competitive when applying for a new job, or being considered for promotion were ranked as the fourth and fifth most important benefits of obtaining the degree. The range of the factor scores was from a low of 1 to a high of 4.

**CONCLUSION**

The results of this study suggest that obtaining the nontraditional PharmD degree positively impacts individual careers. Respondents reported being more satisfied with their PharmD position than they were with their last BS position. Establishing a direct causal link between variables is always problematic in social science research. However, the fact that the individual received the new job or promotion after receiving the PharmD suggests that the degree did make the new position with the corresponding change in activities possible, and the enhanced job satisfaction that resulted. It is interesting to note that one of the factors rated highly as a benefit to obtaining the PharmD was increased competitiveness in the job market. This does appear to be a real benefit of obtaining the nontraditional PharmD.

The study also suggests that the academic experience of obtaining the PharmD helps individuals change the way they practice pharmacy. The majority of respondents, those receiving promotions and changing jobs, as well as those remaining in their current position, increased the amount of time spent on clinical activities, and decreased the amount of time spent on prescription processing. The respondents noted that the most important benefit of obtaining the PharmD degree was improved clinical skills. This study suggests that by obtaining the nontraditional PharmD, individuals do enhance their clinical skills, and then in turn, positively affect patient care through spending more time on clinical activities.

Certainly, one study on the graduates of one nontraditional PharmD program is not conclusive. However, graduates of this nontraditional PharmD program appear to be
making significant career moves, are more satisfied with
their positions, and are changing the way pharmacy is prac-
ticed. The results of this study support Dr. Knapp’s call to
“Pick up the Pace!” and be responsive to the needs of
baccalaureate-trained pharmacists who wish to pursue the
nontraditional PharmD. This population is committed and
motivated, and will change pharmacy practice when pro-
vided with the skills and expertise gained through academic
nontraditional PharmD programs.

Am. J. Pharm. Educ., 59, 223-227(1995); received, 3/7/95, accepted, 8/7/95.

References
(1) Knapp, D. A. “Picking up the pace.. Nontraditional education,” Amer.
(2) Koda-Kimble, M.A., Herfindal, E.T., Shimomura, S.K., Adler, D.S.
and Berstein, L.R., “Practice patterns, attitudes, and activities of
University of California PharmD graduates,” Amer. J. Hosp. Pharm.,
(3) Carroll, N.W., Ervin, W.G. and Beaman, M.A., “A comparison of
practice patterns and job satisfaction of California and Non-Califor-
nia PharmD graduates: some implications for the entry-level PharmD
(4) Ried, L.D. and McGhan, W.F., “PharmD or BS; Does the degree
really make a difference in pharmacists’ job satisfaction,” ibid., 50,
1-5(1986).
satisfaction of entry-level PharmD and BS level graduates in hospital
and community practice,” ibid., 52, 47-50(1988).
(6) Pray, W.S. and Popovich, N.G., “Practice patterns of postbaccalaureate
(7) Barnett, C.W. and Matthews H.W., “Practice patterns of BS,
Postbaccalaureate PharmD and entry-level PharmD graduates of one
(9) Manasse, H.R., “Nontraditional PharmD programs,” ibid., NS27,
(11) McCallian, D.J., “External PharmD degree is the program really fact
(12) Kushner, D., “External PharmD programs sought by many RPhs
holding only bachelor degrees,” Amer. Druggist, 194, 42-44, 46, 48, 51-
52, 54(1986).
(13) Piascik, M.M. and Lubawy, W.C., “Demographic comparisons of ori-
campus and off-campus post-BS PharmD students,” Amer. J. Pharm.
(15) Bloom, M.Z., “Getting a ‘Flexible’ PharmD,” Amer. Pharm., NS34,
nontraditional PharmD graduates,” (abstract), Am. J. Pharm. Educ.,
survey,” The University of Michigan, Ann Arbor MI (1974).
(18) Lee, M. and Fjortoft N.F., “Gender differences in attitudes
and practice patterns of pharmacists,” Amer. J. Pharm. Educ., 57, 313—
Behavioral Sciences, 2nd ed., Houghton Mifflin Company, Boston
MA(1988).