



Female Students Preferences for Different Pharmacy Departments in Research Project Course

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Aim: This study aimed to evaluate female pharmacy students preferences for different pharmacy departments in research project course in Al-Kharj.

Methodology: This was a retrospective study that included the response of the fifth year female students in the college of pharmacy in Al-Kharj in 2020. The students ranked the pharmacy departments according to their preferences. Female pharmacy students in Al-kharj were included. Female students in other colleges and male students were excluded from the study.

Results: More than half of the respondents had a high grade of 4 or more out of 5 (53.85%). Most of the students (58.97%) choose a research project in clinical pharmacy department (51.28% select clinical pharmacy as a first choice and 7.69% as a second choice). Most of the students who selected clinical pharmacy department as a first choice had a high grade (80 % of the students had a grade of 3.5 or more out of 5).

Conclusion: Most of the female students choose a research project in clinical pharmacy department this results is rational because generally a high percentage of pharmacy students plan to work in hospitals after graduation. So, research training is important for pharmacy students to improve their ability to solve drug therapy problems, counsel patients and communicate efficiently with health care professionals.

Keywords: Pharmacy students; preferences; research; research project.

1. INTRODUCTION

Researched in the Health filed has an impact on the diagnosis, prevention, and management of diseases and particularly on health care programs policy [1]. The research in Pharmacy focusing more on evidence-based information, which is a key to recent health-care. Considering multidisciplinary aspect of drug therapy and outcome, there is a need for Pharmacy research to optimize the new service, inform policy, and result in practice changes [2,3].

Undergraduate research exposure increases the recruitment into academic medicine, enhances employability and improves postgraduate research productivity [4]. The integration of evidence-based medicine into the clinical decision-making process requires pharmacists to interpret, utilize, and communicate the findings of researches effectively. These skills can be improved through knowledge creation and dissemination by conducting clinical research [5]. Thus, the development of critical thinking skills and clinical competence through research instruction for pharmacist trainees is vital for the advancement of the pharmacy profession [6,7].

Clinical pharmacy is one of the pharmacy services that was provided by pharmacists in order to promote the rational use of safe, appropriate, and cost-effective medications [8]. Clinical pharmacy in hospitals started in Saudi Arabia in the mid-1970s. At present, clinical pharmacy is well developed in tertiary care hospitals and to a lesser extent in Ministry of Health hospitals [9]. A high percentage of pharmacists plan to work in hospitals after graduation. Saleem et al found that a high percentage of pharmacy students considered clinical pharmacist as the best career option [10]. They also stated that the majority of the respondents chose Clinical pharmacist as best the career option (30.1%) followed by hospital pharmacist (14.6%) [10]. In general, there is an increasing interests of pharmacy students to work in hospitals so they should focus on improving their knowledge and skills in clinical pharmacy researches. This study aimed to evaluate female pharmacy students preferences for different pharmacy departments in research project course in Al-Kharj.

2. METHODOLOGY

This was a retrospective study that included the response of the fifth year female students in the

college of pharmacy in Al-Kharj in 2020 to explore the students preferences for different pharmacy departments in research project course. Research project course is a course that is provided by students in their fifth year.

At the beginning of the course the students filled a web-based survey using google forms about the students research interest. The students ranked the pharmacy departments according to their preferences. The pharmacy college includes five departments which are clinical pharmacy, pharmacology, pharmaceuticals, pharmacognocny and medicinal chemistry.

Female pharmacy students in AL-kharj were included. Female students in other colleges and male students were excluded from the study. Moreover, surveys that were not completed were excluded.

The data were downloaded from the google forms as a Microsoft Excel spreadsheet and the descriptive data were represented as numbers and percentages.

3. RESULTS AND DISCUSSION

More than half of the respondents had a high grade of 4 or more out of 5 (53.85%). Table 1 shows the cumulative grade point average of the students included in the study.

Table 1. The cumulative grade point average of the students

Grade (out of 5)	Number	Percentage
4.50-5.00	14	35.90%
4.00-4.49	7	17.95%
3.50-3.99	11	28.21%
3.00-3.49	3	7.69%
Less than 3.00	4	10.25%
Total	39	100.00%

Table 2 shows the students preferences for different pharmacy departments in research project course. Most of the students (58.97%) choose a research project in clinical pharmacy department (51.28% select clinical pharmacy as a first choice and 7.69% as a second choice) followed by Pharmacognosy department (30.77% as a first choice and 17.95% as a second choice). Pharmacology is the least chosen department (2.56% as a first choice and 5.13% as a second choice).

Table 2. Female students preferences for different pharmacy departments in research project course

Departments	First choice	Second choice
Clinical Pharmacy	20 (51.28%)	3 (7.69%)
Pharmacology	1 (2.56%)	2 (5.13%)
Pharmaceutics	2 (5.13%)	13 (33.33%)
Pharmacognosy	12 (30.77%)	7 (17.95%)
Medicinal Chemistry	4 (10.26%)	14 (35.90%)
Total	39 (100.00%)	39 (100.00%)

Table 3 shows the grades of students who selected clinical pharmacy department as a first choice in research project course. Most of the students who selected clinical pharmacy department as a first choice had a high grade (80 % of the students had a grade of 3.5 or more out of 5). Moreover, 3 students selected clinical pharmacy department as a second choice. The grade of 2 students was more than 4.5 and one student had a grade between 3.5 and 3.99.

Table 3. Grades of students who choose clinical pharmacy department as a first choice in research project course

Grade (out of 5)	Number	Percentage
4.50-5.00	5	(25.00%)
4.00-4.49	6	(30.00%)
3.50-3.99	5	(25.00%)
3.00-3.49	2	(10.00%)
Less than 3.00	2	(10.00%)
Total	20	100.00%

Nowadays, pharmacy students are more interested in conducted researches than the previous years and the pharmacy colleges add courses that focus in conducting pharmaceutical researches [11]. Murphy et al. [11] conducted a study that include a survey to seventy-nine pharmacy colleges and schools and found that more than 90% of the colleges required their students to study/complete courses in biostatistics and drug information/literature evaluation and approximately half required research methods coursework. Moreover, the respondents in their study in general thought that participation in research had some value for motivated students. Moreover, Maharajan et al stated that the implementation of pharmacy curriculum which focuses on research and capabilities needed in research could change pharmacy students attitude towards conducting

research [12]. Kritikos et al stated that integrated programs that explicitly focus on research must be developed and effective research promoting strategies must be implemented to promote research interest in pharmacy practice [13].

The results of the present study showed that most of the pharmacy students choose a research project in clinical pharmacy. These results reflect the interest of the students, particularly students who had high grade, to work in academic field or in hospitals. A previous cross-sectional study on pharmacy students career choices was conducted by Almaghaslah et al and found that hospital pharmacy was found to be the most preferred pharmacy sector by 55.4% of the participants, followed by academia/research industry (15.6%) and the pharmaceutical industry (15.6%) [14]. Kritikos et al reported that the positive attitudes and perceptions of research can be supported by the formal inclusion in research processes, particularly the utility of practice research in clinical practice across the four years of study [13]. Muhandiramge et al conducted a study about the experiences, attitudes and understanding of research amongst medical students at an Australian medical school and reported that out of clinical, epidemiological, basic, and translational research, clinical research (81%) was the most well-known type of research, while translational research (20%) was the least well-known [15]. Moreover, Cheung reported that it is desirable that all medical students know about clinical trials and observational studies, how they are conducted and how to interpret the results [16]. Abushouk et al reported that the majority of medical students (74.2%) agree that undergraduates should participate in clinical research. However, only 23.8% reported engagement in related activities [17].

Most of the female students choose a research project in clinical pharmacy department because in general a high percentage of pharmacy students plan to work in hospitals after graduation. Pharmacology is the least chosen department because the students in general have a few interests in hands-on contact with animals.

4. CONCLUSION

Requiring pharmacy students to complete a research project before graduation was feasible and increased the confidence of the students in

their ability to participate in research. So, research training is important for pharmacy students to improve their ability to conduct research and to improve their literature-evaluation skills and their cognitive skills such as problem solving and communication. These skills prepare pharmacists who have the ability to solve drug therapy problems, counsel patients and communicate efficiently with health care professionals.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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