

# Attributes of Private Pharmacy School Graduates as Care Providers: A Cross-sectional Study from Saudi Arabia

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## ABSTRACT

**Objectives:** This study aimed to measure the level of preparedness of recent pharmacy program graduates to deliver patient care. **Materials and Methods:** A cross-sectional study was conducted using a validated self-administered online survey. Intended outcome measures of the survey instrument include the perception of 46 graduates regarding 16 patient care attributes. **Results:** Most graduates believe that they acquired the attributes named in this study. Gender appeared to not influence graduates' belief in the possession of attributes of interest. Graduates working in the private sector or currently seeking employment reported less confidence in possession of attributes related to "self-awareness", "self-learning", "self-audit", "excitement towards pharmacy subjects", "tolerance of uncertainty" and "compassion". **Conclusion:** Results suggest that pharmacy curricula provided adequate support for graduates' confidence to provide patient care with equal harmony between male and female campuses. Moreover, government employment installed higher confidence in pharmacy graduates compared to the private sector.

**Keywords:** Patient care, Pharmacist attitude, Pharmacy education, Pharmacy graduates, Care provider, Pharmacist attributes.

## INTRODUCTION

Pharmacists have long been seen as an integral part of healthcare teams. Areas of practice include hospitals, community pharmacies, drug manufacturing, and distribution. Pharmacy education experienced a paradigm shift focusing on patient-centered care.<sup>1</sup> This emphasized the role of pharmacists as part of the healthcare team.<sup>2</sup> In areas such as the United States, specialized postgraduate pharmacy residency and fellowship allow for advanced training of pharmacy graduates.<sup>3</sup> Moreover, such postgraduate programs offer pharmacists training in specialized patient care areas such as oncology, ambulatory care, and cardiology.<sup>4</sup> The pharmacy education theatre in Saudi Arabia is urged to integrate a pharmacy curriculum that excels in preparing pharmacists for a wide range of jobs in the Saudi market.<sup>5-6</sup> The future of pharmacy in Saudi Arabia has been well-

defined by the country's 2030 vision. The 2030 vision illustrates that pharmaceutical care will focus on ambulatory and managed care, emphasizing pharmacists' role in direct patient care.<sup>7</sup> Since pharmacy education plays a significant role in preparing pharmacists as care providers, this study was conducted to examine pharmacists' preparedness to provide patient care.

## MATERIALS AND METHODS

The outcome measures were assessed by administering the validated Nova Southeastern University pharmacy graduates' questionnaire. This research instrument has been validated in Medical Education.<sup>8-9</sup> The questionnaire translation to Arabic as well as the face validity was developed by the study investigator and confirmed by academicians at the study university. The online questionnaire asked

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**Table 1: Attributes Considered as Desirable in Health Care Professionals.**

1.	Ability to recognize own limitations and strengths
2.	Ability to inspire confidence in others
3.	Ability to work in a team
4.	Adaptability in a changing environment
5.	Capacity for independent learning for life
6.	Capacity for self-audit
7.	Caring and compassionate nature
8.	Excitement with the subject of medicine Leadership potential
9.	Motivation
10.	Open-mindedness
11.	Perseverance
12.	Satisfactory with interpersonal relationships in your professional life
13.	Spirit of curiosity
14.	Tolerance of ambiguity and uncertainty
15.	Ability to work in a team
16.	Adaptability in a changing environment

participants whether they agree, disagree, or feel partial regarding 16 personal attributes closely tied to their patient care responsibilities (Table 1). Participation in the survey implied consent to participate in this study. The study protocol was approved by the Research Ethics Committee at the study university. All recent male and female graduates (2019 to 2021) from Buraydah Private Colleges (BPC) were invited to participate in the survey, of which 46 graduates participated. A questionnaire link was sent to each participant through SMS messaging. Questionnaire data was only accessible to study investigators. Inferential as well as descriptive statistics were used to analyze the data of the study.

## RESULTS

### Description of Sample

A total of 106 BPC pharmacy graduates from the years (2019-2021) were invited to participate in the study. Overall, 46 graduates participated yielding a response rate of 43.4%. Most participants (56.5%) were female. Most participants were interns (65.2%) and (34.8%) were registered, pharmacists. When asked about current job and training endeavors, the majority were hospital staff pharmacists (43.5%), community pharmacists (21.7%), and the remaining few reported working as industrial pharmacists in drug manufacturing facilities

**Table 2: Characteristics of study participants.**

Characteristics	Male	Female	Total
Registered pharmacists	7	9	16
Intern pharmacist	13	17	30
Government employee	4	3	7
Job seeking	8	18	26
Private sector employee	8	5	13

and pharmaceutical sales representatives for various drug companies within Saudi Arabia (Table 2).

### Possession of Attributes

Overall, graduates acknowledged they acquired the attributes named in this study. Gender appeared to not influence graduates' belief in the possession of attributes of interest in this study. More than 80% of graduates believed they acquired the attributes related to interprofessional relationships, perseverance, and curiosity. Additionally, more than 70% of pharmacy graduates believed they possess desired attributes as care providers linked to inspiring confidence in others, listening skills, teamwork, adaptability to changing environments, independent learning, self-governance, and auditing, caring for others compassionately, enthusiasm to pharmacy-related subjects, self-motivation and open-mindedness and problem-solving during ambiguity. Regarding leadership potential, more male graduates reported they believe they acquired attributes for leadership potential required for care providers 75%, compared to 69.2% of females. On the contrary, more females reported belief in possession of care providing attributes related to self-recognition of their limitations and strengths 69.2%, compared to 50% of males. Attributes desirable in pharmacy care providers related to the ability to work in teams were reported more in female graduates 88.5%, compared to males 70% (Table 3).

### Place of Employment

All graduates working in government positions reported higher satisfaction with possession of a particular set of attributes. These attributes were: personal awareness of strengths and limitations, ability to inspire confidence in others, independent learning for life, self-audit, caring and compassionate nature and excitement about subjects related to pharmacy, and tolerance of ambiguity and uncertainty. Other graduates working in the private

**Table 3: Possession of attributes among study participants.**

Personal Attribute	Gender	Yes, %	Partially, %	No, %	Personal Attribute	Gender	Yes, %	Partially, %	No, %
Ability to recognize own limitations and strengths	M	50	30	20	Excitement with the subject of pharmacy	M	75	20	5
	F	69.2	23.1	7.7		F	80.8	11.5	7.7
Ability to inspire confidence in others	M	70	20	10	Leadership potential	M	75	20	5
	F	80.8	7.7	11.5		F	69.2	30.8	0
Ability to listen	M	70	20	10	Motivation	M	75	20	5
	F	73.1	26.9	0		F	84.6	7.7	7.7
Ability to work in a team	M	70	20	10	Open-mindedness	M	75	20	5
	F	88.5	11.5	0		F	76.9	15.4	7.7
Adaptability in a changing environment	M	75	20	5	Perseverance	M	85	10	5
	F	88.5	11.5	0		F	88.5	3.8	7.7
Capacity for independent learning for life	M	75	20	5	Satisfactory with interpersonal relationships in professional life	M	90	5	5
	F	65.4	26.9	7.7		F	88.5	3.8	7.7
Capacity for self-audit	M	80	15	5	Spirit of curiosity	M	85	5	10
	F	76.9	15.4	7.7		F	84.6	7.7	7.7
Caring and compassionate nature	M	75	20	5	Tolerance of ambiguity and uncertainty	M	70	20	10
	F	80.8	19.2	0		F	84.6	7.7	7.7
*M=male; F=female									

sector or currently seeking employment reported less confidence in possession of such attributes.

## DISCUSSION

Male and female campuses at BPC are segregated following the norm of undergraduate education in Saudi Arabia. The pharmacy program at BPC follows a 4-year Bachelor of Pharmaceutical Sciences curriculum covering a wide spectrum of topics followed by 4 months of field training. The curriculum prepares graduates for a variety of roles and postgraduate training opportunities within the pharmacy job market in Saudi Arabia. This includes hospital pharmacy, community pharmacy, and industrial pharmacy. Furthermore, the program aims for certain graduates' attributes in domains including self-improvement, leadership, problem-solving, and professionalism. The list of BPC's pharmaceutical science program graduate attributes is listed in (Table 4). Overall results of this study suggest that recent graduates are confident in their possession of attributes mentioned in this study. Furthermore, possession of the attributes seen as important for caregivers to acquire was similar between males and females. This is particularly

important in Saudi Arabia as segregation between genders in education is the norm. In essence, male and female studies are separated on different campuses in many private and government universities in Saudi Arabia with few exceptions. The exception is that some collaborative training, online lectures as well as other modes of education may exist in some programs. The results suggest the unification in graduates' confidence towards acquiring the attributes in question in this study. While most graduates seem to agree on their belief about the possession of these attributes, differences were noted between those working in government versus private sectors. Graduates occupying government positions seem more confident in their belief towards possession of attributes related to personal awareness of strengths and limitations, ability to inspire confidence in others, independent learning for life, self-audit, caring and compassionate nature, and excitement about subjects related to pharmacy and tolerance of ambiguity and uncertainty. With no clear causation link between this result and the curriculum, this difference is likely due to differences in the practice nature of government institutions compared to the private sector. Additionally,

**Table 4: Attributes of pharmaceutical science program graduates at BPC.**

<b>Adaptable:</b> Responds positively and easily to changing environments
<b>Business sense:</b> Has a strong grasp on financial, marketing, inventory, and human resource skills
<b>Communication:</b> Conveys information in a clear, confident, and succinct manner
<b>Critical Thinker:</b> Makes decisions based upon sound logic and solid evidence
<b>Dedicated:</b> Stays until the task is done, committed to patient care and takes pride in performance
<b>Efficient:</b> Accomplishes a task quickly and correctly without compromising quality
<b>Empathetic:</b> Maintains cultural sensitivity and accepts role in working with diverse populations
<b>Imaginative:</b> Thinks and comes up with creative solutions to identify or resolve dilemmas
<b>Knowledgeable:</b> Provides accurate pharmacy-related information
<b>Leader:</b> Takes initiative to explore options and takes on new challenges
<b>Methodical:</b> Creates an organized system for performing a task
<b>Problem-solver:</b> Able to create a solution to a problem for which there is no immediate or obvious answer
<b>Professional, respects confidentiality:</b> Carries self in a manner expected of a role model
<b>Punctual:</b> Arrives on time to start the day, after breaks or lunch, and to meetings/appointments
<b>Self-learning:</b> Takes on the responsibility of educating self by learning from experiences
<b>Technologically-adept:</b> Uses computer and internet-based resources with a high level of efficiency
<b>Utilizing literature efficiently:</b> Uses appropriate references and primary literature

a sizeable number of BPC students hold employment while attending school with the majority working in government institutions as pharmacy technicians. This prompts opportunities for future studies to ascertain the difference in practice settings between government and private institutions as well as the influence of concomitant employment of pharmacy students. Finally, the findings of this study imply the unification of pharmacy training among graduates leading to similar beliefs about the possession of attributes

as care providers. However, the results might be unique to graduates of this program only during the included graduation years. As updated curriculums get implemented, continued assessment of future graduates' beliefs of possession of certain attributes is necessary.

## CONCLUSION

The findings of this study suggest that the pharmacy curriculum at BPC installs adequate confidence in graduates towards care-providing attributes for pharmacists. The findings also suggest harmony, to a great extent, between male and female campus graduates at BPC. Further investigation of other market-specific attributes desirable in pharmacists is warranted.

## CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

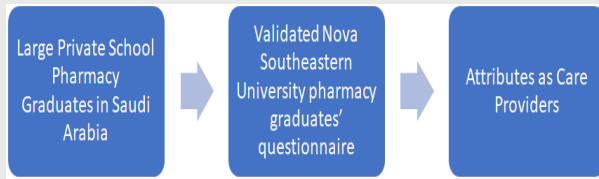
## ABBREVIATIONS

**BPC:** Buraydah Private Colleges.

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## PICTORIAL ABSTRACT



## SUMMARY

Measuring the level of preparedness of pharmacy program graduates to deliver patient care is essential for program evaluation. The validated self-administered online survey helps in outcome measurement of the perception of pharmacy graduates regarding 16 patient care attributes. Our study suggest that pharmacy curricula provided adequate support for graduates' confidence to provide patient care with equal harmony between male and female campuses. Moreover, government employment installed higher confidence in pharmacy graduates compared to the private sector.

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