

Practice of Health Insurance Services by Pharmacists in Saudi Arabia

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ABSTRACT

Objectives: To illustrate the Practice of Health Insurance Services by Pharmacists in Saudi Arabia. **Materials and Methods:** It analyzes a cross-sectional survey that discussed the Pharmacist practice of health insurance in Saudi Arabia. The survey consisted of respondents' demographic information about pharmacists and types of Health insurance coverage, present items for health insurance pharmacists at any healthcare institution, and Health insurance pharmacist practice implementation. The 5-point Likert response scale system was used with closed-ended questions. The survey was validated through the revision of expert reviewers and pilot testing. Besides, various tests of reliability, McDonald's ω , Cronbach alpha, Gutmann's λ_2 , and Gutmann's λ_6 been done with the study. Furthermore, the data analysis of the Practice Health Insurance Services by Pharmacists is done through the survey monkey system. Besides, the statistical package of social sciences (SPSS), Jeffery's Amazing Statistics Program (JASP), and Microsoft Excel sheet version 16. **Results:** A total number of 398 pharmacists responded to the questionnaire. Of them, more than one-third responded from the Central region (137 (34.51%)), and one Quarter responded from the western part (109 (27.46%)), with statistically significant differences between the provinces ($p=0.000$). Males responded more than females (239 (60.35%)) versus 157 (39.65%), with statistically significant differences between all levels ($p=0.000$). Most of the responders were in the age group of 24-30 years (271 (68.26%)) and 31-35 years (56 (14.11%)), with statistically significant differences between all age groups ($p=0.000$). Most of the pharmacists were staff pharmacists (300 (75.76%)) and pharmacy supervisors (43 (10.86%)), with statistically significant differences between all levels ($p=0.000$). Almost one-half of pharmacists currently have health insurance coverage (239 ((60.05%)) with equal or less than one year (108 ((42.52%)), or 2-3 years (81 ((31.89%))), have you been associated with your current insurance provider with statistically significant differences between all levels ($p=0.000$). The average score of practice items for health insurance pharmacists at any healthcare institution (is 1.78). The element "Heath insurance and high-risk medications " obtained the highest score (1.85). The aspect "Heath insurance pharmacist and home healthcare medication" was (1.84). The average score of Health insurance pharmacist practice implementation (is 3.29). The element "The health insurance pharmacist employee as a staff member of Heath insurance departments or pharmacy services " obtained the highest score (3.53). The aspect "The Heath insurance pharmacist had an active role in health insurance departments " was (3.53). **Conclusion:** The pharmacist practice of health insurance was inadequate. The health insurance system highly demands pharmaceutical care. Therefore, implementing health insurance pharmacists at healthcare organizations and other health insurance companies is highly suggested in Saudi Arabia.

Keywords: Practice, Pharmacist, Health Insurance, Services, Saudi Arabia.

INTRODUCTION

Implementing health insurance policies and procedures is required for all health institutions emphasizing pharmaceutical care services. That's to prevent loss or add unnecessary costs for healthcare diseases.^[1-10] The Council of Cooperative Health Insurance (CCHI) in Saudi Arabia released various regulations and guidelines for health insurance practice emphasizing medication therapy or Issuance Drug Formulary (IDF).^[11-15] Each healthcare organization has a different system during implementation, and appropriately, several elements of medication health insurance should be developed. However, it might there are some differences or discrepancies among all healthcare

providers including the pharmacy staff.^[9,11-15] Therefore, the asses of the pharmacy practice of healthcare insurance are necessary⁽¹⁶⁾. Besides, the various application of healthcare insurance in pharmacy give different experiences and more opportunities to expand the services in medicine coverage by healthcare insurance. Limited availability of studies about pharmacist practice of healthcare in medicine internationally.^[1-9,16] The majority of studies discussed the pharmacy benefit of a hospital drug formulary. The authors are unfamiliar with any local investigations about pharmacists practicing health insurance in or gulf and all Arabic countries except one study.^[16] The current cross-sectional survey aims to examine pharmacist's practice at health insurance in Saudi Arabia.

MATERIALS AND METHODS

It analyzes a cross-sectional survey that discussed the Pharmacist practice of health insurance in Saudi Arabia. It self-reported an electronic survey of the pharmacist, including pharmacists from internship to consultant, pharmacist specialties, and Saudi Arabia. All non-pharmacist or students, non-completed, non-qualified surveys will be excluded from the study. The survey consisted of respondents' demographic information about pharmacists and types of Health insurance coverage, present items for health insurance pharmacists at any healthcare institutions, and Health insurance pharmacist practice implementation.^[1-9,16-23] The 5-point Likert response scale system was used with closed-ended questions. According to the previous literature with an unlimited population size, the sample was calculated as a cross-sectional study, with a confidence level of 95% with a z score of 1.96 and a margin of error of 5%, a population percentage of 50%, and drop-out rate of 10%. As a result, the sample size will equal 380-420 with a power of study of 80%.^[24-26] The response rate required for the calculated sample size is at least 60-70 % and above.^[26,27] The survey was distributed through social media of WhatsApp applications and telegram groups of pharmacists. The reminder message had been sent every 1-2 weeks. The survey was validated through the revision of expert reviewers and pilot testing. Besides, various tests of reliability, McDonald's ω , Cronbach alpha, Gutmann's λ_2 , and Gutmann's λ_6 been done with the study. The data analysis of the Pharmacist practice of health insurance is done through the survey monkey system. Besides, the statistical package of social sciences (SPSS), Jeffery's Amazing Statistics Program (JASP), and Microsoft Excel sheet version 16. It included a description and frequency analysis, good of fitness analysis, correlation analysis. Beside, inferential analysis of factors affecting present items for health insurance pharmacist at any healthcare institutions, and Health insurance pharmacist practice implementation with linear regression. The STROBE (Strengthening the reporting of observational studies in epidemiology statement: guidelines for reporting observational studies) guided the reporting of the current study.^[28,29]

RESULTS

A total number of 398 pharmacists responded to the questionnaire. Of them, more than one-third responded from the Central region (137 (34.51%)), and one Quarter responded from the western part (109 (27.46%)), with statistically significant differences between the provinces ($p=0.000$). Most of the responders were from Ministry of Health Hospitals (96 (24.37%)),

Pharmaceutical companies (87 (21.86%)), and community pharmacies (69 (17.34%)), with a statistically significant difference between working sites ($p=0.000$). Males responded more than females (239 (60.35%)) versus 157 (39.65%), with statistically significant differences between all levels ($p=0.000$). Most of the responders were in the age group of 24-30 years (271 (68.26%)) and 31-35 years (56 (14.11%)), with statistically significant differences between all age groups ($p=0.000$). Most of the pharmacists were staff pharmacists (300 (75.76%)) and pharmacy supervisors (43 (10.86%)), with statistically significant differences between all levels ($p=0.000$). Most of the responders held Bachelor in pharmacy (192 (48.36%)) and Pharm D (146 (36.78%)). Most pharmacists had a work experience of 1-3 years (160 (40.20%)) and >1 year (104 (26.13%)), with a statistically significant difference between years of experience ($p=0.000$). Most pharmacists work at an outpatient pharmacy (79 ((23.58%)) and inpatient pharmacist (63 ((18.81%)). Almost one-half of pharmacists currently have health insurance coverage (239 ((60.05%)) with equal or less than one year (108 ((42.52%)), or 2-3 years (81 ((31.89%)), have you been associated with your current insurance provider with statistically significant differences between all levels ($p=0.000$). Most responders did not practice or work as Health insurance pharmacists 346 (88.27%), with statistically significant differences between all answers ($p=0.000$). There was a medium positive correlation between age (years) and years of experience based on Kendall's tau_b (0.686) and Spearman's rho (0.753) correlation coefficients, with a statistically significant difference between the two factors ($p<0.000$). There was a medium positive correlation between age (years) and length of health insurance coverage based on Kendall's tau_b (0.482) and Spearman's rho (0.526) correlation coefficients, with a statistically significant difference between the two factors ($p<0.000$). There was a medium positive correlation between years of experience and length of health insurance coverage based on Kendall's tau_b (0.682) and Spearman's rho (0.733) correlation coefficients, with a statistically significant difference between the two factors ($p<0.000$). There was a medium positive correlation between the site of work and practice area based on Kendall's tau_b (0.514) and Spearman's rho (0.627) correlation coefficients, with a statistically significant difference between the two factors ($p<0.000$). There was a medium negative correlation between the site of work and who currently have health insurance coverage based on Kendall's tau_b (0.404) and Spearman's rho (0.461) correlation coefficients, with a

statistically significant difference between the two factors ($p<0.000$) (Tables 1 and 2).

The health insurance implemented at responder's healthcare organizations is average, covering 59.2% of the patients, 33.6% of medications, and 34.6% of medication devices (Table 3).

The average score of practice items for health insurance pharmacists at any healthcare institution (is 1.78). The element "Health insurance and high-risk medications" obtained the highest score (1.85). The aspect "Health insurance pharmacist and home healthcare medications" was (1.84). In contrast, the lowest score was obtained for the element "The vision of health insurance pharmacist" (1.74). The score for the component "health insurance pharmacist and research" was (1.74) with a statistically significant difference between the responses ($p<0.000$). All aspects of practice items for health insurance pharmacists at any healthcare institution between responses was a statistically significant difference between the responses ($p<0.000$) (Table 4). The average score of Health insurance pharmacist practice implementation (is 3.29). The element "The health insurance pharmacist employee as a staff member of Health insurance departments or pharmacy services" obtained the highest score (3.53). The aspect "The Health insurance pharmacist had an active role in health insurance departments" was (3.53). In contrast, the lowest score was obtained for the element "I attended several courses or workshops about the role of the pharmacist in Health insurance" (2.59). The score for the component "There are various of Health insurance pharmacist resources in practice" was (3.05) with a statistically significant difference between the responses ($p<0.000$). All aspects of the perception of pharmacists about Health insurance pharmacist practice implementation were statistically significant between responses ($p<0.000$) (Table 5). The score for single-test reliability analysis of McDonald's ω was 0.951, Cronbach's α was 0.948, Gutmann's λ_2 , 0.957, Gutmann's λ_6 was 0.974, and Greater Lower Bound was 0.986 with statistically significant ($p<0.05$).

Factors affecting the health insurance pharmacists at healthcare institutions

Factors affecting the present items for health insurance pharmacists at healthcare institutions were analyzed. We adjusted the significant values using the independent samples Kruskal-Wallis test and the Bonferroni correction for multiple tests. The factors that might affect health insurance pharmacists at healthcare institutions include location, worksite, age (years), gender, years of experience, position held, practice area in a pharmacy career, Health

Locations	Response Count	Response Percent	p-value (X2)	
Central area	137	34.51%	0.000	
North area	34	8.56%		
South area	59	14.86%		
East area	58	14.61%		
West area	109	27.46%		
Answered question	397			
Skipped question	1			
Site of work	Response Count	Response Percent	p-value (X2)	
MOH Hospitals	97	24.37%	0.000	
Military hospitals	26	6.53%		
National Guard Hospital	18	4.52%		
Security forces hospitals	10	2.51%		
University Hospital	16	4.02%		
MOH primary care centers	6	1.51%		
Private hospitals	40	10.05%		
Private ambulatory care clinics	2	0.50%		
Private primary healthcare center	7	1.76%		
Community pharmacy	69	17.34%		
Pharmaceutical company	87	21.86%		
Health insurance company	2	0.50%		
King Faisal Specialist Hospital and Research Center	4	1.01%		
Academia	5	1.26%		
SFDA	6	1.51%		
Not Employment	3	0.75%		
Answered question	398			
Skipped question	0			
Gender	Response Count	Response Percent		
Male	239	60.35%		0.000
Female	157	39.65%		
Answered question	396			
Skipped question	2			
Age	Response Count	Response Percent		
24-30	271	68.26%	0.000	
31-35	56	14.11%		
36-40	37	9.32%		
41-45	10	2.52%		
46-50	9	2.27%		
> 50	14	3.53%		
Answered question	397			
Skipped question	1			

Pharmacist Qualifications	Response Count	Response Percent	p-value (X2)	
Diploma in Pharmacy	25	6.30%	0.000	
Bachelor in Pharmacy	192	48.36%		
Master	50	12.59%		
Pharm D	146	36.78%		
Ph. D	16	4.03%		
PGY 1	3	0.76%		
PGY 2	3	0.76%		
PGY 3	2	0.50%		
Fellowship	3	0.76%		
Answered question	397			
Skipped question	1			
Position Held	Response Count	Response Percent		
Director of Pharmacy	31	7.83%		0.000
Assistant Director of Pharmacy	22	5.56%		
Supervisor	43	10.86%		
Pharmacy staff	300	75.76%		
Answered question	396			
Skipped question	2			
Years of experience in a pharmacy career	Response Count	Response Percent		
Less than one year	104	26.13%	0.000	
1-3	160	40.20%		
4-6	48	12.06%		
7-9	28	7.04%		
10-12	22	5.53%		
>12	36	9.05%		
Answered question	398			
Skipped question	0			
The practice area	Response Count	Response Percent		
Inpatient Pharmacy	63	18.81%	0.000	
Outpatient Pharmacy	79	23.58%		
Satellite Pharmacy	6	1.79%		
Narcotics and Controlled	6	1.79%		
Extemporaneous Preparation	2	0.60%		
Clinical Pharmacy	21	6.27%		
Inventory Control	8	2.39%		
Drug Information	8	2.39%		
IV admixture	5	1.49%		
Community pharmacy	52	15.52%		
Health insurance	0	0.00%		
Medical representatives	57	17.01%		
Education and training	1	0.30%		
Pharmaceutical companies	13	3.88%		
Research and development	5	1.49%		

Continued...

Table 2: Cont'd.

The practice area	Response Count	Response Percent	
Quality management	3	0.90%	
Pharmacy administration	4	1.19%	
community pharmacy	2	0.60%	
Answered question	335		
Skipped question	63		
Do you currently have health insurance coverage?	Response Count	Response Percent	
Yes	239	60.05%	0.000
No	159	39.95%	
Answered question	398		
Skipped question	0		
If Yes, How long have you been associated with your current insurance provider?	Response Count	Response Percent	
< 1 year	108	42.52%	0.000
2-3	81	31.89%	
4-6	26	10.24%	
7-9	15	5.91%	
9-12	9	3.54%	
> 12	15	5.91%	
Answered question	254		
Skipped question	144		
Have you ever practiced or worked as Health insurance pharmacist	Response Count	Response Percent	
Yes	16	4.08%	0.000
No	346	88.27%	
I do not know	30	7.65%	
Answered question	392		
Skipped question	6		

insurance coverage, and Years of Health insurance coverage. Five locations affected present items of health insurance pharmacists with statistically significant differences between regions ($p=0.004$) with the highest scores (2.1465) of the southern area. Sixteen worksites affected the present items of health insurance pharmacists. The working site affected the factors of current things of health insurance pharmacist a statistically significant difference between working sites ($p=0.002$) with the highest score (2.8722) of security forces hospital. The age of the responders affected the present items of health insurance pharmacists with statistically significant differences ($p=0.023$). There is a non-significant difference among all age levels. The gender did not affect the present items of health insurance pharmacists with non-significant differences between males and females ($p=0.975$). Six levels of work experience non-affected current things of health insurance pharmacists with non-significant differences ($p=0.111$). Four levels of the position were affected, with the highest score (2.7971) with the assistant director of pharmacy with a statistically significant difference between all levels ($p=0.000$). The pharmacy practice affected

present items of health insurance pharmacists with statistically significant differences ($p=0.006$) and the non-statistically significant difference among all pharmacy practice areas. The presence of health insurance coverage for pharmacists affected the present items of health insurance pharmacists with statically significant differences ($p=0.007$) with the highest score (1.9109) of current items of health insurance pharmacists. The number of years of health coverage did not affect the present elements of health insurance pharmacists with non-statistically significant differences ($p=0.362$) (Table 6).

The relationship between the *health insurance pharmacists at healthcare institutions* and factors such as location, worksite, age (years), gender, position held, years of experience, practice area in a pharmacy career, Health insurance coverage, and Years of Health insurance coverage. The multiple regression analysis considered perception as the dependent variable and factors affecting it as an expletory variable. There was a weak relationship ($R=0.288$ with $p=0.034$) between items for health insurance pharmacists at any healthcare institution and its factors. Seven out of nine were non-significant differences ($p>0.05$). However, multiple regression analysis confirmed that one factor (i.e., work site) explained 21.4 % of the negative relationship to the variation in items for health insurance pharmacists at any healthcare institution, with a statistically significant difference ($p=0.040$). The bootstrap model was also confirmed. Furthermore, the relationship was verified by the non-existence of multicollinearity with a variance inflation factor (VIF) of 2.396 less than three or five as a sufficient number of VIF (Table 7).^[30-32]

Factors affecting the Health insurance pharmacist practice implementation

Factors affecting the *Health insurance pharmacist practice implementation* were analyzed. We adjusted the significant values using the independent samples Kruskal-

Wallis test and the Bonferroni correction for multiple tests. The factors that might affect Health insurance pharmacist practice implementation include location, worksite, age (years), gender, years of experience, position held, practice area in a pharmacy career, Health insurance coverage, and Years of Health insurance coverage. Five locations did not affect health insurance pharmacist implementation with non-statistically significant differences between regions ($p=0.841$). Sixteen worksites affected health insurance pharmacist implementation. The working site did not affect the factors of health insurance pharmacist implementation, with a non-statistically significant difference between working sites ($p=0.189$). The responders' age did not affect the health insurance pharmacist implementation with non-statistically significant differences ($p=0.907$). The gender did not affect the present items of health insurance pharmacists with non-significant differences between males and females ($p=0.477$). Six levels of work experience affected health insurance pharmacist implementation with significant differences ($p=0.040$) and non-statistically significant differences among all levels of experience. Four levels of the position did affect health insurance pharmacist implementation, with a statistically non-significant difference between all levels ($p=0.963$). The pharmacy practice did not affect health insurance pharmacist implementation with non-statistically significant differences ($p=0.611$). The presence of health insurance coverage for pharmacists did not affect the health insurance pharmacist implementation with non-statically significant differences ($p=0.250$). The number of years of health coverage affected the health insurance pharmacist implementation with statistically significant differences ($p=0.019$) with the highest score (3.9815) of > 12 years of health insurance coverage.

The relationship between the Health insurance pharmacist practice implementation and factors such as

Table 3: The types of the Health insurance coverage.

NO		Not Implemented		< 25 %		26-50		51-75		76-100%		Total	Weighted Average	p-value (X2)
1.	No of patients	29.79%	115	16.84%	65	11.92%	46	10.10%	39	31.35%	121	386	2.96	0.000
2.	No of medications	29.58%	113	17.02%	65	15.45%	59	14.40%	55	23.56%	90	382	1.68	0.000
3.	No medications devices	33.07%	126	19.95%	76	17.59%	67	11.81%	45	17.59%	67	381	1.73	0.000
	Answered											398		
	Skipped											0		

Table 4: The health insurance pharmacists at healthcare institutions.

NO		No activity had been implemented		It was formally discussed and considered, but it was not implemented		It is partially implemented in hospitals for some areas, patients, drugs, staff		It is fully implemented in the hospital for some areas, patients, drugs, and staff		It is fully implemented throughout the hospital for all patients, drugs, and staff		Total	Weighted Average	p-value (X2)
1.	The vision of health insurance pharmacist	241	60.86%	63	15.91%	61	15.40%	15	3.79%	16	4.04%	396	1.74	0.000
2.	The mission of health insurance pharmacist	235	59.19%	65	16.37%	53	13.35%	26	6.55%	18	4.53%	397	1.81	0.000
3.	The strategic plan of health insurance pharmacist	235	59.49%	71	17.97%	54	13.67%	20	5.06%	15	3.80%	395	1.76	0.000
4.	The annual plan of health insurance pharmacists	245	62.34%	59	15.01%	48	12.21%	22	5.60%	19	4.83%	393	1.76	0.000
5.	Policy and procedure of health insurance pharmacist	245	62.50%	55	14.03%	55	14.03%	20	5.10%	17	4.34%	392	1.75	0.000
6.	health insurance pharmacist competency	244	61.93%	57	14.47%	45	11.42%	26	6.60%	22	5.58%	394	1.79	0.000
7.	health insurance pharmacist and quality management	249	63.20%	47	11.93%	57	14.47%	21	5.33%	20	5.08%	394	1.77	0.000
8.	health insurance pharmacist and education and training program	243	61.52%	62	15.70%	52	13.16%	18	4.56%	20	5.06%	395	1.76	0.000
9.	health insurance and medications errors system	238	60.25%	63	15.95%	58	14.68%	18	4.56%	18	4.56%	395	1.77	0.000
10.	health insurance and adverse drug reactions	245	62.03%	51	12.91%	60	15.19%	19	4.81%	20	5.06%	395	1.78	0.000
11.	health insurance and drug quality reporting system	237	60.00%	54	13.67%	60	15.19%	26	6.58%	18	4.56%	395	1.82	0.000
12.	health insurance pharmacist and drug use evaluation	243	61.36%	60	15.15%	53	13.38%	18	4.55%	22	5.56%	396	1.78	0.000
13.	Health insurance and poisoning	241	61.01%	62	15.70%	57	14.43%	14	3.54%	21	5.32%	395	1.76	0.000
14.	health insurance pharmacist and research	244	61.62%	66	16.67%	49	12.37%	20	5.05%	17	4.29%	396	1.74	0.000
15.	health insurance pharmacist and non-drug formulary	241	61.17%	59	14.97%	53	13.45%	21	5.33%	20	5.08%	394	1.78	0.000
16.	health insurance and non-approved indications	242	61.27%	58	14.68%	50	12.66%	24	6.08%	21	5.32%	395	1.79	0.000
17.	Health insurance pharmacist and medications home healthcare	234	59.85%	49	12.53%	61	15.60%	30	7.67%	17	4.35%	391	1.84	0.000
18.	Health insurance and high-risk medications	234	59.54%	47	11.96%	66	16.79%	27	6.87%	19	4.83%	393	1.85	0.000
	Answered											441		
	Skipped											3		

Table 5: Health insurance pharmacist practice implementation.

No	Items	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	Weighted Average	p-value (X2)
1	The pharmacist is always an active member of the health insurance committees at healthcare institutions	4.27%	17	9.55%	38	36.18%	144	33.17%	132	16.83%	67	398	3.49	0.000
2	The Health insurance pharmacist share in most of the committees of pharmacy services	5.53%	22	7.79%	31	32.66%	130	37.69%	150	16.33%	65	398	3.52	0.000
3	The health insurance pharmacist employee is a staff member of Health insurance departments or pharmacy services	5.81%	23	7.07%	28	32.83%	130	36.87%	146	17.42%	69	396	3.53	0.000
4	insurance pharmacists had clear job descriptions in Health insurance departments	7.36%	29	11.68%	46	34.26%	135	30.46%	120	16.24%	64	394	3.37	0.000
5	The Health insurance pharmacist had an active role in health insurance departments	5.82%	23	7.85%	31	32.15%	127	35.70%	141	18.48%	73	395	3.53	0.000
6	and outcomes with Health insurance pharmacist	7.58%	30	10.61%	42	35.35%	140	30.56%	121	15.91%	63	396	3.37	0.000
7	I attended several courses or workshops about the role of the pharmacist in Health insurance	26.08%	103	18.23%	72	32.66%	129	16.20%	64	6.84%	27	395	2.59	0.000
8	There is electronic Health insurance in pharmacy services and computerized physician order entry	10.89%	43	11.39%	45	35.95%	142	31.39%	124	10.38%	41	395	3.19	0.000
9	There are various of Health insurance pharmacist resources in the practice	11.45%	45	13.23%	52	43.51%	171	23.41%	92	8.40%	33	393	3.04	0.000
	Answered											398		
	Skipped											0		

location, worksite, age (years), gender, position held, years of experience, practice area in a pharmacy career, Health insurance coverage, and Years of Health insurance coverage. The multiple regression analysis considered Health insurance pharmacist practice implementation as the dependent variable and factors affecting it as an explanatory variable. There was a weak relationship ($R=0.256$ with $p=0.084$) between Health insurance pharmacist practice implementation and its factors. Six out of nine were non-significant differences ($p>0.05$). However, multiple regression analysis confirmed that two factors (i.e., working site and year of health insurance coverage) explained 21.9 % and 26.3%, respectively, of the positive relationship to the variation in Health insurance pharmacist practice implementation, with a statistically significant difference ($p=0.037$) and ($p=0.010$). In contrast, one factor (experiences) explained a 31.2 % negative relationship to the variation in Health insurance pharmacist practice implementation, with a statistically significant difference ($p=0.026$). The bootstrap

model was also confirmed. Furthermore, the relationship was verified by the non-existence of multicollinearity with the working site, and year of health insurance coverage factors with a variance inflation factor (VIF) of 2.398, 2.267. In contrast, the relationship was verified by the existence of multicollinearity with a variance inflation factor (VIF) of 4.299, more than three or equal to five as a non-acceptable number of VIF (Table 8).^[30-32]

DISCUSSION

The practice of health insurance is expanding day by day in the kingdom of Saudi Arabia.^[11-14,33] All healthcare professionals emphasize the pharmacist might play a vital role in Health insurance-related issues. The pharmacist can revise the medication whether included in the insurance drug formulary or not.^[15] The pharmacist can review Saudi Food and Drug Authority (SFDA) registration and the approved indications locally or internationally.^[1-9,16] The pharmacist might review whether the medication is included in the management

guidelines. Besides, the pharmacist can check the cost of brand or generic medicines and related coverage by Health insurance. Moreover, the pharmacist can provide a therapeutic exchange of non-available medications or shortage drugs or medications that cause the adverse event to patients. Besides, setup up the vision, mission, and scope of pharmacy insurance.^[1-9,16] Thus, the exploration of pharmacist practice of health insurance is necessary. The current study can answer the previous objective through cross-sectional investigations of the survey distributed to all pharmacists working at various sites and practice areas. Besides, multiple age ranges, different experiences, and positions with calculated sample sizes are better than the previous study^[9] and almost similar to other research.^[2] Those differences in demographic factors reflected the whole pharmacy society.

The findings showed the average practice of Health insurance items was poor. Most responders developed health insurance for high-risk medication and home care facilities.

Table 6: Multiple regression of Factors with the health insurance pharmacists at healthcare institutions.

Model	R	R Square	F	Sig.	Unstandardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
					B	Std. Error			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.288 ^b	.083	2.065	.034 ^b	3.631	.699	5.196	.000	2.253	5.008		
Location					-.011	.044	-.247	.805	-.097	.076	.942	1.062
Site of work					-.063	.030	-2.067	.040	-.123	-.003	.417	2.398
Age (years)					.246	.127	1.944	.053	-.004	.496	.325	3.079
Pharmacist gender					-.180	.152	-1.180	.239	-.480	.120	.924	1.082
Years of experience in a pharmacy career					-.207	.121	-1.710	.089	-.446	.032	.233	4.299
Position Held					-.124	.081	-1.520	.130	-.284	.037	.804	1.244
Practice area					-.001	.022	-.062	.950	-.044	.041	.447	2.238
The presence of Health insurance coverage					-.405	.415	-.977	.330	-1.224	.413	.834	1.198
Years of Health insurance coverage					-.019	.077	-.252	.801	-.172	.133	.441	2.267

a. Dependent Variable: health insurance pharmacists at healthcare institutions, Predictors: (Constant), Location, Age (years), Pharmacist gender, Position Held, Years of experience in a pharmacy career, practice area, The presence of Health insurance coverage, Years of Health insurance coverage

Bootstrap for Coefficients

Model	B	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
1 (Constant)	3.631	.008	.677	.001	2.347	4.980
Location	-.011	.001	.047	.830	-.103	.077
Site of work	-.063	.000	.024	.012	-.110	-.016
Age (years)	.246	.009	.119	.033	.031	.495
Pharmacist gender	-.180	-.015	.152	.236	-.485	.108
Years of experience in a pharmacy career	-.207	-.005	.123	.082	-.456	.035
Position Held	-.124	-.003	.101	.218	-.341	.055
Practice area	-.001	.001	.018	.929	-.037	.038
Health insurance coverage	-.405	.011	.389	.252	-1.125	.439
Years of Health insurance coverage	-.019	.002	.075	.788	-.171	.121

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 8: Multiple regression of Factors with the Health insurance pharmacist practice implementation.

Model	R	R Square	F	Sig.	Unstandardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
					B	Std. Error			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.265 ^b	.070	1.729	.084 ^b	2.855	.523	5.456	.000	1.823	3.887		
Location					-.021	.033	-.639	.524	-.086	.044	.942	1.062
Site of work					.048	.023	2.104	.037	.003	.093	.417	2.398
Age (years)					.134	.095	1.410	.160	-.053	.321	.325	3.079
Pharmacist gender					-.082	.114	-.720	.472	-.307	.143	.924	1.082
Years of experience in a pharmacy career					-.204	.091	-2.242	.026	-.383	-.025	.233	4.299
Position Held					.021	.061	.346	.730	-.099	.141	.804	1.244
Practice area					-.032	.016	-1.975	.050	-.064	.000	.447	2.238
The presence of Health insurance coverage					.365	.311	1.174	.242	-.248	.978	.834	1.198
Years of Health insurance coverage					.150	.058	2.600	.010	.036	.265	.441	2.267

a. Dependent Variable: Health insurance pharmacist practice implementation, Predictors: (Constant), Location, Age (years), Pharmacist gender, Position Held, Years of experience in a pharmacy career, practice area, The presence of Health insurance coverage, Years of Health insurance coverage.

Model	B	Bias	Std. Error	Sig. (2-tailed)	Bootstrap ^a 95% Confidence Interval	
					Lower	Upper
1 (Constant)	2.855	-.007	.550	.001	1.742	3.936
Location	-.021	.001	.034	.551	-.090	.043
Site of work	.048	.000	.023	.046	-.001	.092
Age (years)	.134	.005	.091	.131	-.038	.338
Pharmacist gender	-.082	.003	.112	.465	-.302	.141
Years of experience in a pharmacy career	-.204	-.005	.089	.025	-.386	-.033
Position Held	.021	-3.298E-05	.076	.754	-.125	.176
Practice area	-.032	.001	.017	.058	-.063	.002
Health insurance coverage	.365	.002	.246	.120	-.076	.867
Years of Health insurance coverage	.150	-.001	.053	.004	.053	.263

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

That's expected because of the demand to cover any medication errors occurred with harmful drugs. Besides, home care services are expanded through the government and private sector, which must be covered by health insurance. In contrast, there is a lack of pharmacy insurance research and vision of health insurance pharmacists. That's related to the pharmacy health insurance services not being well developed. Moreover, the pharmacist does not do various Heath insurance in pharmacy practice, such as mission, strategic plan, annual plan, or policy and procedures of pharmacy health insurance. Besides, Heath insurance pharmacist competency, quality management, health insurance pharmacy education and training, health insurance for drug-related problems, and drug usage evaluation. Those previous practice services are essential in pharmacy health insurance.

Various factors might affect the answer of pharmacists in the current survey of practice items in health insurance. First, the location of responders might affect the practice of pharmacists, with the highest score in the southern area. That's related property much implementing Heath insurance in pharmacy practice in that area. Second, the working site might affect the practice items of health insurance, with the highest score of the practice of health insurance at the security forces hospital. Third, the position factor might affect the practice of health insurance. For example, the assistant director of pharmacy does the Highest practice. That might have responsibilities of Heath insurance in pharmacy services. Fourth, the presence of Heath insurance at Healthcare organizations might affect the practice of Heath insurance in pharmacy services. That's expected because all pharmacists should check for each health insurance coverage before dispensing the medications. Finally, the working site is the most dependable factor that might affect the practice of health insurance in pharmacy services. That's expected because the pharmacy Heath insurance concept is poorly developed locally. Thus, there is no previous investigation to compare with the current findings.

The findings showed the average score of Heath insurance pharmacist practice implementation was acceptable. Most health insurance pharmacists were part of the pharmacy staff not specialized in health insurance and had an active role in the health insurance department at a healthcare organization. That means most pharmacists wish to work as health insurance pharmacists. However, some obstacles might prevent pharmacists from continuing their work in Heath insurance, such as education and tearing.^[2] Thus, most pharmacists lacked

education and training in health insurance and references to Heath insurance in pharmacy practice. Both were essential to developing health insurance pharmacists to implement many services in Heath insurance through pharmacy services. Thus, there is no previous investigation to compare with the current findings.

The majority of demographic factors did not affect the health insurance pharmacist implementation. However, the pharmacist's experience might affect the Heath insurance pharmacist. That's expected because they are non-expert with all Heath insurance regulations. At the same time, new pharmacists are more familiar with the new health insurance system and barriers and solutions to implementing health insurance in pharmacy practice. In addition, the length of health insurance coverage might affect the Heath insurance pharmacist, especially those over 12 years. The most dependable factors affecting health insurance pharmacists were the working site and length of the health insurance coverage. Thus, there is no previous investigation to compare with the current findings

Limitations

The current study of the practice of Heath insurance services at pharmacies is critical. It has value and benefits of improving the pharmacy health insurance services locally. However, the study had various limitations. The sampling method was not randomized, containing a wide range of responders' demographic characteristics and not representative of all pharmaceutical care sectors. In addition, the research cross-examined references which can be changed with time. Further studies conducted with random sampling techniques with in-depth details practice are needed to perform in the practice of pharmacy services.

CONCLUSION

The practice of pharmacists in Heath insurance services was insufficient. Most pharmacists focused on high-risk and home care medications of Heath insurance system. In contrast, the vision, mission, and strategic plan of Heath insurance in pharmacy practice had a negative response. The other Heath insurance pharmacist implementations were appropriate, zooming in on the presence of Heath insurance pharmacists with an active role in healthcare organizations. In addition, the pharmacist lacked education and training in the pharmacy health insurance pulse appropriate recommended references. Various factors might affect the pharmacist in Heath insurance systems, such as working site, experiences,

and implementation of Heath insurance at healthcare facilities. They're different pharmacy health insurance implementations among healthcare organizations. Therefore, the standardized system of Heath insurance in pharmacy practice is warranted, plus undergraduate and postgraduate education about pharmacy Heath insurance services is highly recommended for implementation in Saudi Arabia.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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Consent for Publications

Informed consent was obtained from all the participants

Ethical Approval

This research was exempted from research and ethical committee or an institutional review board (IRB) approval.

<https://www.hhs.gov/ohrp/regulations-and-policy/decision-charts-2018/index.html>

ABBREVIATIONS

CCHI: Council of Cooperative Health Insurance; **IDF:** Insurance Drug Formulary; **MOH:** Ministry of Health; **KSA:** Kingdom of Saudi Arabia; **SPSS:** Statistical Package of Social Sciences; **JASP:** Jeffery's Amazing Statistics Program; **STROBE:** Strengthening the reporting of observational studies in epidemiology statement; **VIF:** Variance Inflation Factor; **SFDA:** Saudi Food and Drug Authority.

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