

Online Appendix 1. Operationalization and measurements of the variables producing the initial 52 items

Variable	Conceptual Definition	Operational Definition	Original items	Modified Items
Physician decision to prescribe the drug	The final decision on prescribing lies with the physicians who should consider the suitability of applying the recommendations of the guidelines, choices of drugs types, and the patient's ability to pay.	It refers to what extent the importance of the type of a drug, guideline of drug choice and the patient's ability to pay on the final decision of physicians when prescribing the drug for their patient.	Consider the drug: 1. Drugs type choices. 2. Generic, branded generic and patent. 3. Applicable guideline and buying power of patients.	1. The type of a drug (generic, branded) determines what medicine I prescribe to my patient. 2. I prescribe to my patient based mainly on his/her purchasing power (the patient's ability to pay for the drug). 3. I follow treatment guidelines every time I prescribe drugs to my patient. ³⁸
Information Available on a Drug	Drug information available on the internet, medical books and clinical studies, which are obtained by physicians to enable better prescribing and improve the healthcare of patients.	It refers to what extent the importance of the available information published on websites, clinical studies and scientific journals and medical textbooks concerning the product to physicians' perceptions in prescribing drugs to their patients.	1. Products that have information available on the Internet interfere with my prescription. 2. In order to prescribe a new medicine I pursue information from award scientific journals. 3. Provision of scientific evidence from clinical studies about the medicine. 4. Products with information available in simple language for consumers interfere with my prescription.	The physician takes into consideration... 1. <i>prescribing drugs based on their available information in educational materials provided by pharmaceutical companies in the form of clinical studies.</i> 2. prescribing drugs that have their information published in medical textbooks. 3. prescribing drugs that have their information published on the internet (Web sites of drug firm). 4. prescribing drugs that have their information published in medical journals and scientific publications. ⁴⁶
Brand of a Drug	It refers to the original medicines that have been newly developed and subsequently patented and sold exclusively by a pharmaceutical company until the patent expires.	It refers to what extent the importance of the brand in terms physicians preferably consider familiar brands, brand endorsed by their colleagues and efficiently brands to physicians' perceptions in prescribing drugs to their patients.	1. I choose a medicine primarily for its efficacy. 2. I prescribe a well-known brand more easily than an unknown brand with similar efficacy. 3. I prescribe a well-known brand more often than an unknown brand with similar efficacy. 4. In order to prescribe a medicine for a first time, I listen to the opinion of award colleagues (professors, etc.).	The physician takes into consideration... 1. <i>prescribing drugs with a well-known brand.</i> 2. prescribing drugs that have a good reputation and reliable brand. 3. prescribing drugs that have a brand already been tested by colleagues. 4. prescribing drugs that have efficacy brand. ⁴⁶
Sales Promotion	Promotion activities carried out by pharmaceutical companies to induce physicians to prescribe the prescription such as the provision of drug samples, gifts, sponsored educational activities, etc. ²⁸	It refers to what extent the importance of sales promotion of pharmaceutical companies related to involvement in conferences, supplementary incentives offers, the use of educational materials and the provision of free drug samples to physicians' perceptions in prescribing drugs to their patients. ⁴⁶	1. The firm's interest to educate the physicians on new medicines, through financing their participation to international scientific conferences. 2. Financial incentives, given that there are similar competitive alternative medicines. 3. Add-value incentives, i.e., office-practice items, patient record forms, etc., given that there are similar competitive alternative medicines. 4. The free samples of the medicine. 5. Complementary services offered by laboratories, such as events or sites, influence my prescription.	The physician takes into consideration... 1. <i>prescribing drugs from companies that organize seminars, and medical conferences.</i> 2. prescribing drugs from companies that initially offer free samples to physicians. 3. prescribing drugs from companies that offer supplementary valuable incentives, i.e., office-practice items, prescription pads, and patient record forms. 4. prescribing drugs from companies that provide educational materials to patients, i.e., posters. 5. prescribing drugs from companies that give financial incentives, i.e., cash payment, bonuses, and commissions. ^{17,46}

Variable	Conceptual Definition	Operational Definition	Original items	Modified Items
MRs Effectiveness	Ability of MRs to effectively and efficiently provide information and marketing programs about the company's products, in the hope the doctors will prescribe the company's products more often (Alosaimi et al., 2013). This situation if properly tackled effectively can convince physicians to prescribe marketed drugs. ⁴⁶	It refers to what extent the importance of the MRs effectiveness regarding interpersonal relationship, detailer's scientific knowledge and hand-out brochure with details about the medicine to physicians' perceptions in prescribing drugs to their patients. ⁴⁶	1. The detailer's scientific knowledge on the medicine. 2. The physician-detailer interpersonal relationship. 3. The hand-out brochure with details about the medicine. 4. Visit by personal seller influence my prescription. 5. This PSR (MRs) exhibits professional standards of conduct at all times.	The physician takes into consideration... 1. prescribing drugs where the MRs possess sufficient knowledge of the medicine. 2. prescribing drugs where the MRs explain the side effect of the drugs (Expert interview). 3. prescribing drugs where the MRs keep in contact with the physicians (i.e., repeated visits). 4. <i>prescribing drugs where the MRs adhere to ethical and professional standards at all times.</i> 5. <i>prescribing drugs where the MRs share a social and interpersonal relationship with the physicians.</i> ^{17,46}
Patient Request for a Drug	Patient preference for specific drugs via a direct verbal request to the physician opines that activated patients are more inclined to go to a physician with the desired therapy plan in mind, such as a prescription for a particular brand.	It refers to what extent the importance of the direct request of a patient for a particular drug or brand to physicians' perceptions in prescribing drugs to their patients.	1. If patients request a specific type of drug, physicians tend to prescribe it. 2. If patients request a specific brand of drug, physicians tend to prescribe it.	The physician takes into consideration... 1. the request of a patient for a specific type of drug before prescribing. 2. the request of a patient for a specific brand of the drug before prescribing. ⁴⁵ 3. the request of a patient for a less expensive drug regardless of the drug's efficacy before prescribing (Expert interview).
Patient Expectations	It is described as the physician's perception of a patient's desires, beliefs, and capabilities regarding a prescription during medical consultations.	It refers to what extent the importance of patient's expectations toward priority to generic, drugs suggested by health policymakers and benefits of brand drugs to physicians' perceptions in prescribing drugs to their patients.	1. Giving priority to generic vs. brand products. 2. Reflecting current societal friction steered by cost-containment policies. 3. Preference for generic drugs by health policy makers. 4. Reflecting general public opinion of the benefits of brand-name products.	The physician takes into consideration... 1. the priority of generic drugs over brand drugs before prescribing. 2. the generic drugs suggested by health policymakers. 3. <i>the general public opinion about the benefit of brand-name drugs before</i> 4. <i>prescribing any for their patients.</i> <i>the affordability and subsidizing of drugs.</i> ¹³
Pharmacist Expert Power	It refers to the pharmacist's knowledge and expertise in the area of drug prescription. ²² This includes skills such as consultations, suggestions and advising physicians about the safe and effective uses of medicine.	It refers to what extent the importance of the pharmacist's suggestion, experience, and information about the drugs to physicians' perceptions in prescribing drugs to their patients.	1. Pharmacists are a reliable source of general drug information (i.e., specific facts about drugs). 2. Pharmacists routinely inform me about more cost-effective alternatives to the drugs I prescribe. 3. Pharmacists routinely counsel my patients regarding the safe and appropriate use of their medications. 4. Pharmacists are suggesting use of prescription medications to physicians.	<i>The physician takes into consideration...</i> 1. the suggestion of pharmacists about cost-effective alternative drugs before prescribing any for their patients. 2. the information provided by pharmacists about new drugs before prescribing any for their patients. 3. the recommendation of pharmacists regarding prescribing certain medications from some companies before prescribing any for their patients. 4. the advice of pharmacist about available medicines that are readily available before prescribing any for their patients. ⁵⁴

Variable	Conceptual Definition	Operational Definition	Original items	Modified Items
Pharmacist – Physician Collaboration	The extent to which the doctor and pharmacist work together to positively impact the prescribing behaviour and patients' healthcare.	It refers to what extent the importance of collaborating pharmacist with the physician about the prescribing drugs to physicians' perceptions in prescribing drugs to their patients.	1. There would be cooperation between the physician and myself (pharmacist) in managing drug therapy of our patients. 2. Decision making would be coordinated between the physician and me (pharmacist). 3. In making decisions for our patients, both physician and pharmacist options would be considered. 4. Decision-making responsibilities for the patient's drug therapy would be shared between the physician and me (pharmacist).	The physician takes into consideration.... 1. the cooperation of the pharmacist about the possibility of switching to another drug similar to the cost less before prescribing any for their patients. 2. <i>the coordination with the pharmacist about drugs (i.e., to ensure the patient receives the desired medication) before prescribing any for their patients.</i> 3. the coordination with the pharmacist about the drugs (i.e. to ensure the patient receives the optimal medication at the optimal dose etc.) before prescribing any for their patients. 4. the sharing of responsibility with pharmacists about drugs before prescribing any for their patients.⁵⁷
Drug Characteristics	The attributes that differentiate a drug from other products on the market, and identified as necessary when a physician makes a decision to prescribe drugs. The characteristics include efficacy, adverse effects, quality, and quantity.	It refers to what extent the importance of the drug attributes such as age of the product, the impact of drug interactions, product image, side effects or efficacy and kind of the product to physicians' perceptions in prescribing drugs to their patients.	1. Age of the product in the market interferes with my prescription. 2. Effect of drugs interaction interferes with my prescription. 3. Product image interferes with my prescription. 4. Collateral effects interfere with my prescription. 5. Kind of product category interferes with my prescription.	<i>The physician takes into consideration...</i> 1. the age of the drug in the market before prescribing any for their patients. 2. <i>the efficacy of a drug before prescribing any for their patients.</i> 3. the effect of the drug interactions before prescribing any for their patients. 4. the form of a drug (i.e. syrup, tablet, & injection...etc.) before prescribing any for their patients. 5. the image of the drug in the market before prescribing any for their patients.¹⁷
Cost/Benefit Ratio of a Drug	It refers to the trade-off between essential benefits and cost derived from the drug.	It refers to what extent the importance of the cost/benefits ratio of a drug regarding the patient's income, the price of the drug and patient history with the medicine to physicians' perceptions in prescribing drugs to their patients.	1. Drug price interferes with my prescription 2. Patient incomes interfere with my prescription. 3. Patient history interferes with my prescription. 4. Relation cost/benefit interferes on my prescription.	The physician takes into consideration... 1. the price of a drug very seriously before prescribing any for their patients. 2. the income of the patient before prescribing. 3. the cost/benefit relation of a drug before prescribing any for their patients. 4. <i>the patient's drug prescription history.</i>¹⁷
Physician Habit Persistence	The continuity in prescribing the same drug without any particular contemplation or cognitive involvement. It refers to physician repeatedly prescribes the same type of drug to many patients or even better, one drug to the same patient many times.	It refers to what extent the importance of the continuity prescribe same medicines as a result of positive experiences of previous with brands and brand loyalty created by persuasive MRs to physicians' perceptions in prescribing drugs to their patients.	1. I am really committed in prescribing drugs of this PSR company. 2. Positive clinical experiences of other physicians with a brand lead to brand loyalty. 3. Previous successful experiences with special brands lead to brand loyalty.	The physician takes into consideration... 1. prescribing the same drug that they have had a positive experience with the patient (Expert interview). 2. prescribing the same drug that they have had a positive experience with. 3. prescribing the same drug from particular companies/MRs that they are loyal to or committed with.²⁶

Variable	Conceptual Definition	Operational Definition	Original items	Modified Items
Trustworthiness	The ability of a physician to trust the word and expertise of a pharmacist regarding a drug prescription.	It refers to what extent the importance of the trustworthiness constructed by credibility, trust, and bidirectional communication with a pharmacist to physicians' perceptions in prescribing drugs to their patients.	The pharmacist is credible. 2. I trust this pharmacist's drug expertise. 3. Communication between this pharmacist and me is two-way. 4. I intend to keep working together with this pharmacist	The physician takes into consideration... 1. the credibility of the pharmacist about the drugs before prescribing any for their patients. 2. the bidirectional communication with a pharmacist about drugs (exchange of information on available medicines) before prescribing any for their patients. 3. the expertise of the pharmacist about the drug (i.e., quality of medicines, brand names for medications) before prescribing any for their patients. 4. the working relationship with the pharmacist about the use of drugs in specific situations before prescribing any for their patients. ^{24,57}

Online Appendix 2. Means (M), standard deviation (SD) and correlation between Constructs

No		M	SD	Cronbach's alpha	1	2	3	4	5	6	7	8	9	10	11	12	13
1	INF	4.140	.779	0.741	(3)												
2	BAR	4.101	.764	0.723	.404**	(3)											
3	SPR	3.612	1.053	0.858	.315**	.213**	(4)										
4	MRE	3.811	.936	0.831	.188**	.251**	.684**	(4)									
5	PRD	3.741	.980	0.845	.319**	.283**	.449**	.357**	(3)								
6	PEX	3.788	.842	0.783	.345**	.267**	.404**	.343**	.563**	(3)							
7	PEP	3.780	.845	0.759	.322**	.314**	.435**	.368**	.516**	.487**	(4)						
8	PCP	3.787	.901	0.782	.205**	.240**	.386**	.360**	.458**	.436**	.538**	(3)					
9	DCH	3.901	.603	0.784	.236**	.243**	.276**	.225**	.459**	.449**	.410**	.423**	(4)				
10	CBD	3.925	.864	0.768	.348**	.336**	.347**	.301**	.452**	.381**	.471**	.415**	.526**	(3)			
11	PHP	3.953	.885	0.719	.206**	.203**	.294**	.258**	.468**	.410**	.504**	.391**	.346**	.366**	(3)		
12	TRS	3.601	.945	0.800	.014	.093	.226**	.254**	.107**	.149**	.254**	.425**	.250**	.288**	.156**	(4)	
13	PPD	3.843	.908	0.770	.175**	.290**	.125**	.125**	.394**	.407**	.201**	.468**	.340**	.328**	.274**	.297**	(3)

Note: The number of items indicated in parentheses

	Variable
INF	Information Available on the Drug
BAR	Brand of the drug
SPR	Sales Promotion
MRE	Medical Representatives Effectiveness
PRD	Patient Request for the Drug
PEX	Patient Expectations
PEP	Pharmacist Expert Power
PCP	Pharmacist – Physician Collaboration
DCH	Drug Characteristics
CBD	Cost/ Benefit Ratio of the Drug
PHP	Physician Habit Persistence
TRS	Trustworthiness
PPD	Physician Prescribing Decision

Online Appendix 3. Factor loadings, reliability, and composite reliability

Latent Variable	Indicator	Loadings	AVE	Cronbach's Reliability	Composite Alpha	Remarks
BRA	BRA1	0.684	0.635	0.723	0.838	Eliminated due to low factor loading
	BRA2	0.852				
	BRA3	0.722				
	BRA4	0.810				
CBD	CBD1	0.828	0.682	0.768	0.866	
	CBD2	0.810				
	CBD3	0.839				
	CBD4	0.670				Eliminated due to low factor loading
DCH	DCH1	0.747	0.603	0.784	0.858	
	DCH2	0.660				Eliminated due to low factor loading
	DCH3	0.806				
	DCH4	0.726				
	DCH5	0.823				
INF	INF1	0.691	0.657	0.741	0.852	Eliminated due to low factor loading
	INF2	0.828				
	INF3	0.810				
	INF4	0.793				
MRE	MRE1	0.837	0.660	0.831	0.886	
	MRE2	0.790				
	MRE3	0.859				
	MRE4	0.760				
	MRE5	0.700				Eliminated due to low factor loading
PEP	PEP1	0.762	0.676	0.759	0.861	
	PEP2	0.796				
	PEP3	0.829				
	PEP4	0.724				
PEX	PEX1	0.823	0.606	0.783	0.860	
	PEX2	0.747				
	PEX3	0.822				
	PEX4	0.679				Eliminated due to low factor loading
PHP	PHP1	0.840	0.637	0.719	0.840	
	PHP2	0.888				
	PHP3	0.775				
PCP	PPC1	0.855	0.698	0.782	0.874	
	PPC2	0.690				Eliminated due to low factor loading
	PPC3	0.892				
	PPC4	0.709				
PPD	PPD1	0.852	0.687	0.770	0.868	
	PPD2	0.868				
	PPD3	0.763				
PRD	PRD1	0.903	0.759	0.845	0.904	
	PRD2	0.912				
	PRD3	0.794				
SPR	SPR1	0.696	0.684	0.858	0.896	Eliminated due to low factor loading
	SPR2	0.719				
	SPR3	0.883				
	SPR4	0.871				
	SPR5	0.825				
TRS	TRS1	0.821	0.624	0.800	0.868	
	TRS2	0.850				
	TRS3	0.719				
	TRS4	0.762				

Online Appendix 4. Discriminant validity of construct - Fornell-Larcker Criterion

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	BAR	0.797												
2	CBD	0.323	0.826											
3	DCH	0.224	0.528	0.776										
4	INF	0.402	0.354	0.231	0.810									
5	MRE	0.228	0.311	0.227	0.189	0.813								
6	PCP	0.242	0.414	0.427	0.202	0.354	0.822							
7	PEP	0.300	0.468	0.406	0.317	0.365	0.530	0.779						
8	PEX	0.253	0.380	0.459	0.339	0.336	0.437	0.482	0.798					
9	PHP	0.196	0.366	0.351	0.205	0.262	0.391	0.490	0.402	0.836				
10	PPD	0.305	0.334	0.350	0.181	0.129	0.470	0.204	0.413	0.277	0.829			
11	PRD	0.274	0.454	0.455	0.314	0.350	0.451	0.503	0.561	0.454	0.414	0.871		
12	SPR	0.196	0.342	0.289	0.313	0.697	0.390	0.426	0.417	0.295	0.150	0.428	0.827	
13	TRS	0.103	0.302	0.266	0.025	0.273	0.430	0.264	0.181	0.163	0.302	0.125	0.259	0.790

Note: **Bold** text represents the value square root of AVE.

Source: SmartPLS 3.0.

	Variable
INF	Information Available on the Drug
BAR	Brand of the drug
SPR	Sales Promotion
MRE	Medical Representatives Effectiveness
PRD	Patient Request for the Drug
PEX	Patient Expectations
PEP	Pharmacist Expert Power
PCP	Pharmacist – Physician Collaboration
DCH	Drug Characteristics
CBD	Cost/ Benefit Ratio of the Drug
PHP	Physician Habit Persistence
TRS	Trustworthiness
PPD	Physician Prescribing Decision

Online Appendix 5. Discriminant validity (heterotrait-monotrait ratio of correlations ratio, 0.85, 0.95)

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	BAR													
2	CBD	0.451												
3	DCH	0.322	0.679											
4	INF	0.550	0.463	0.313										
5	MRE	0.323	0.378	0.281	0.240									
6	PCP	0.326	0.543	0.550	0.274	0.456								
7	PEP	0.418	0.607	0.527	0.423	0.455	0.697							
8	PEX	0.378	0.511	0.592	0.474	0.445	0.589	0.650						
9	PHP	0.272	0.470	0.443	0.270	0.319	0.504	0.634	0.543					
10	PPD	0.389	0.429	0.435	0.234	0.156	0.610	0.260	0.543	0.355				
11	PRD	0.360	0.561	0.564	0.405	0.426	0.571	0.632	0.716	0.573	0.491			
12	SPR	0.269	0.428	0.336	0.394	0.810	0.478	0.528	0.510	0.353	0.173	0.524		
13	TRS	0.149	0.370	0.320	0.106	0.311	0.552	0.320	0.250	0.195	0.378	0.156	0.273	

Source: SmartPLS 3.0

	Variable
INF	Information Available on the Drug
BAR	Brand of the drug
SPR	Sales Promotion
MRE	Medical Representatives Effectiveness
PRD	Patient Request for the Drug
PEX	Patient Expectations
PEP	Pharmacist Expert Power
PCP	Pharmacist – Physician Collaboration
DCH	Drug Characteristics
CBD	Cost/ Benefit Ratio of the Drug
PHP	Physician Habit Persistence
TRS	Trustworthiness
PPD	Physician Prescribing Decision

Online Appendix 6. PLS-SEM bootstrapping direct relationship



