doi: 10.1111/hex.12269

Patient reactions to community pharmacies' roles: evidence from the Portuguese market

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Accepted for publication
25 August 2014

Keywords: community pharmacy roles, loyalty, pharmacy patients, satisfaction

Abstract

Background There is little knowledge about how patients perceive and react to the extended role of community pharmacies.

Aim To develop a model describing the expanded role of Portuguese community pharmacies as comprising three roles – medicines supplier, advice provider and community health promoter – and two important patient reactions: satisfaction and loyalty.

Design In 2010, 1200 face-to-face interviews were conducted with patients of community pharmacies in Portugal. A model comprising the three pharmacy roles and the two patient reactions was developed and tested using structural equation modelling.

Results The results showed that the model was appropriate and that the roles of medicines supplier, advice provider and community health promoter were positively related to patients' satisfaction and loyalty.

Conclusions These results show that patients are aware of the different roles played by community pharmacies in Portugal. The data support the idea that the movement of Portuguese pharmacists' extended role, framed within a global context where society sends expectations regarding the role of organizations in the community in which they operate, is producing positive results for both patients and pharmacists.

Introduction

In Portugal as in other Western countries, the role of community pharmacies is changing from being solely a place where patients can acquire medicines or other health and welfare-related products, to being somewhere where patients can obtain individual health advice and specialized care. The changing role of pharmacists and pharmacies is being advocated by institutions such as the World Health Organization[1,2] and in Portugal by representatives of pharmacists[3] and pharmacies.[4] As noted by Zeind and McCloskey,[5] "pharmacists have expanded their roles in practice settings and now serve as integral members of an interdisciplinary health-care system. It will now be important to determine *how the public will respond to a more patient-centred pharmacy practice*" (p. 153, emphasis added). Most of studies that examined patients' reactions to the extended role of community pharmacists show

a positive effect of the roles of pharmacists in medication/therapeutic management and patient counselling[6] but none have analysed how patients react to the pharmacy's general community orientation. In this study, we draw on corporate social responsibility (CSR) literature to develop an integrated model describing the expanding roles of Portuguese community pharmacies – three roles – medicines supplier, advice provider and community health promoter – and their relationships to patient satisfaction and loyalty. Framing pharmacies' activity as roles played in society led us to focus our analysis on the outcomes for patients. By doing this, we are contributing to knowledge about the social role played by community pharmacies, which is relevant considering that CSR has not received systematic attention in the health-care literature.[7] Although there have been some studies investigating the dimensions of patient satisfaction with pharmaceutical care in the community[8,9] and a validated instrument has been developed to measure this,[10,11] we are not aware of other studies that conceptualize community pharmacy roles in the way that we propose, or that take into account these recent developments in professional roles.

From medicines supplier to advice provider

Community pharmacies are multidimensional entities. On one hand, they are businesses whose viability depends on a market that allows them to earn necessary revenue. As they often operate in highly competitive contexts, customer satisfaction and loyalty are key factors if they are to be economically viable. Pharmacies are also places of work, where pharmacists play their professional role, which is increasingly focused on patients as individuals and which can also generate favourable reactions from pharmacy patients. The extended role of community pharmacies is a natural consequence of the movement to reprofessionalize pharmacists who, by emphasizing the provision of patient care, aim to enhance the status of their profession[12] and promote professional flexibility.[13] This new role broadens the scope of pharmaceutical practice, adding the role of information and patient care provider to the traditional one of medicines supplier,[14] a role designated as *advice provider* in this study. Pharmacy patients potentially benefit from a wider range of services often at a lower cost and with more convenience than visiting their doctor and experiencing this may lead to satisfaction with and loyalty to a particular pharmacy.

Only a few studies have investigated how pharmacy users perceive pharmacies' roles and react to changes in these roles. Research shows, despite a positive overall assessment of a community pharmacy medicines management service in which they were involved,[15] certain patients do not see pharmacists' recommendations as sufficiently legitimate, placing their trust rather in general practitioners in relation to decisions regarding managing their treatment.[16] Similarly, results point to a partial resistance or ambivalent attitudes to advice obtained from not only community pharmacies[17,18] but also hospital pharmacies.[19] Public and other health-care providers' perceptions about pharmacists' competencies, among other factors, can reduce more generalized utilization of pharmacy services.[20] As levels of advice can be different, depending on the specific pharmacy where it is given, it becomes important to examine to what extent it is related to pharmacy patient criteria. Considering the critical influence of trust in health-care professionals in the effectiveness of care,[21–23] we can hypothesize that increased levels of trust in pharmacists' advice results in higher customer satisfaction and loyalty. However, this supposition does not negate the influence of the more traditional role reserved for the community pharmacy (medicines supplier) in relation to customer satisfaction and loyalty, but rather suggests that these results are also affected by the advice provider role.

Adding the community health promoter role

In addition to the roles of medicines supplier and advice provider, we suggest in this study that Portuguese pharmacies play an additional

role that of community health promoter. Pharmacies have a social role, with responsibilities for promoting public health and maximizing social cohesion. Due to their proximity and easy access, pharmacies are often the first port of call for the relief of less serious symptoms and increasingly places where patients can get specialized care. In Portugal, pharmacies often participate in programmes for the identification and control of several common illnesses, programmes for the free exchange of syringes for drug addicts, pharmaceutical care programmes, chronic disease prevention campaigns, integrated waste management of packaging and out-of-date medicines, charity support projects and interest-free credit to buy medicines.[24]

Considering this possible level of involvement of pharmacies in the community, expressing themselves as social actors,[25] we propose that pharmacies have a third important role in addition to those of medicines supplier and advice provider, namely the *community health promoter*. The literature on corporate social responsibility (CSR) is helpful in understanding this role. Regardless of the controversy surrounding the definition of CSR[26] and the multiple interpretations of this concept that have been produced,[27,28] CSR can be seen as a legitimizing practice in contemporary organizations,[29] meaning that organizations go beyond the immediate objectives of creating profit to create legitimacy and benefits[30] via positive community activities.

In line with this vision of CSR and the widespread evidence that CSR activities have the potential to generate stronger relationships between companies and customers, positive firm evaluations and loyalty,[31] we propose that the extent to which the pharmacy is involved in the community and acts as a promoter of community health is related to the satisfaction and loyalty of its patients. This assumption only holds if community involvement is related to the roles of medicines supplier and advice provider. The next section will provide additional support for this argument.

Integrating the three pharmacy roles and predicting their relationship with satisfaction and loyalty

To integrate pharmacies' roles and the relationship with patients' satisfaction and loyalty, we developed the model depicted in Fig. 1. The model shows pharmacies as expanding their roles from medicines dispenser to advice provider and to community health promoter. Additionally, this model was based on two major contributions: the distinction between corporate ability (CA) and corporate social responsibility (CSR);[32] efforts made to describe responses of customers to companies' social responsibility projects.[33]

Corporate ability (CA) describes an organization's ability to generate products and services and corporate social responsibility (CSR) represents how committed organizations are to their social obligations.[32] CA and CSR may have different effects on consumer responses regarding these initiatives. Research aimed to

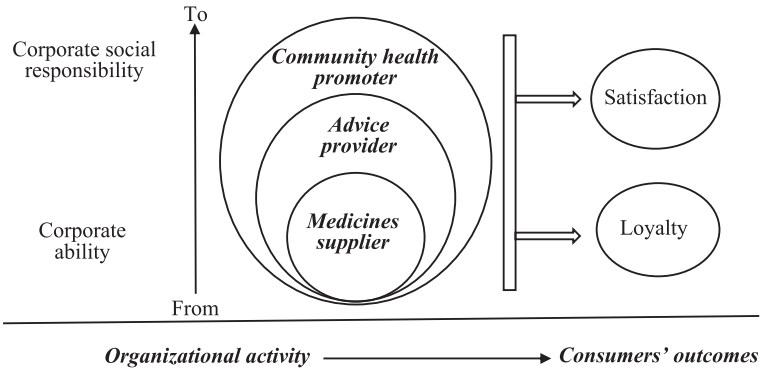

Figure 1 A model of community pharmacies' roles.

determine whether CSR and CA can compensate for each other found that, in relation to product preference, poor CA is not compensated by good CSR, especially if consumers believe that the CA is an important factor; however, reduced CRS can be compensated by a good CA.[33]

In the case of the operations of pharmacies in the community, we suggest that their essential output (their CA) is that of medicines supplier. CSR initiatives reflect their role as community health promoters. The advice provider role is currently emerging and it is not clear whether it should be considered a dimension of CA or CSR. We are not aware of any research investigating CSR and its relationships with satisfaction and loyalty. However, in the future, with the widespread adoption and incorporation of the advice provider role into customer expectations of normal service from community pharmacies, it seems most likely that this role will become part of CA.

In modelling the impact of CSR projects on consumers' reactions, Bhattacharya and Sen's[34] framework provides an appropriate reference tool. They developed a contingency model to distinguish internal outcomes, such as awareness of and attitudes towards the company from external, or visible, outcomes, which include purchase behaviour, word of mouth and loyalty. Although there is variability in consumer responses to CSR activity, research shows that CSR has much greater impact on internal outcomes than external ones.[34]

In short, based on the distinction between CA and CSR and the model of consumer responses to social responsibility activities, we predict a significant positive relationship between the three roles of community pharmacies – medicines supplier, advice provider and community health promoter – and two important results – satisfaction with and loyalty to the pharmacy. The aim of this study was to test this set of relationships in a sample of Portuguese customers of community pharmacies.

Methods

Sample and procedure

The sample was composed of 1200 patients. Sampling followed a two-stage procedure. During the first stage, eight districts from a total of 18 on the Portuguese mainland were randomly selected (excluding the autonomous regions of Madeira and the Azores). Selected districts represent 60% of total pharmacies registered in Portugal (2817 in 2010[35]) and 50% of total residing population (10 562 178[36]). Then, 30 pharmacies were randomly selected from the eight districts, considering the number of existing pharmacies. Permission was sought from owners to approach patients off-site immediately after being served at the respective pharmacy.

For 2 days a week in April 2010, following a plan of a random selection of 40 patients per pharmacy, patients were approached by a trained interviewer, who invited them to participate in a study about the pharmacy. The take-up rate for the study was very high (84.5% of those approached agreed to participate). Data collection took place through personal and direct interviews, using A4 cards with the scales employed. The option for this type of data collection was based on the premise that pharmacy patients are older than the national average and some may have some difficulty with self-administered questionnaires. According to regulations in Portugal, approval from an ethical committee was not required to conduct the study. Data were analysed using IBM SPSS 19 (IBM SPSS, 19.0. Armonk, NY: IBM Corp. USA) and MPLUS 6.12 (MPLUS 6.12, Muthén & Muthén, Los Angeles, USA). The data on respondents' socio-demographic profile and pharmacy use can be found in Table 1.

Measures

To test the relationship between the pharmacy roles and patient results, we used a combination of existing measures and ones created specifically for this study. We have developed the measures for the medicines supplier and advice

Table 1 Sample description

Time taken to get to pharmacy (min)	M = 8.62 (SD = 7.30)
Age (years)	M = 60.60 (SD = 17.39)
	%
Sex	
Male	35.5
Female	64.5
Job situation	
Unemployed	7.4
Student	3.0
Self-employed	11.2
Employee	35.4
Retired	32.9
Housewife/husband	10.1
Education	
Illiterate/incomplete primary education	12.3
Primary education	29.5
1st cycle	12.2
9th year	18.8
12th year	14.3
Higher education	12.8
Did not respond	0.2
No. of trips to the pharmacy in the last 6 months	
Never	0.1
1–3 times	16.3
4–6 times	30.4
7–10 times	8.0
11 or more times	45.3
No. of requests for advice from pharmacist in the last 6 months	
None	19.8
1–3	52.7
4–6	20.3
7–10	3.8
11	3.6

provider roles. Using an inductive approach,[37] we conducted 16 semi-structured interviews with patients (n = 10) and pharmacists (n = 6), with the answers subject to content analysis with a set of illustrative quotations from exploratory interviews. Using this result as a basis, we drafted two sets of 10 and 19 items to measure, respectively, the medicines supplier and advice provider roles.

To measure the medicines supplier role, we asked respondents to assess the pharmacy according to a scale ranging from 1 (very poor) to 5 (very good). After examining missing values, exploratory and confirmatory factor analysis and calculation of item-test correlations, four items were retained. This measure had good levels of reliability (α = 0.76).

In relation to the pharmacy's role as advice provider, respondents were asked to focus their attention on staff at the pharmacy that served them most often and rate the dominant behaviour with a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The initial set of 19 items was subjected to exploratory factor analysis, a procedure which, after deleting five items due to saturation greater than 0.50 in more than one dimension, showed that there were three factors with eigenvalues greater than 1. For this study, the first factor was retained, which explained 34.0% of variance. This factor was chosen on the basis that it contained items related to trust in the advice obtained from the pharmacy. Confirmatory factor analysis led us to retain four items. Reliability of this scale was high (α = 0.86).

To measure the community health promoter role, an adapted version of an already existing scale was used.[38] Originally created to assess reputation with six items the scale was clearly focused on the organization's contribution to the community, which is appropriate for this study. Moreover, the joint development and potential methodological overlap of corporate social performance and corporate reputation was already higlighted.[39] The adapted scale was reduced to four items following item analysis and has already been used in Portugal.[40] This measure is based on a 5-point rating scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of the scale was high (α = 0.85).

We measured satisfaction using four of the five items of a widely internationally used scale in retail selling.[41] This scale is made up of five items measured via a 7-point semantic differential, asking respondents to express their satisfaction with their buying experience. After item analysis, we eliminated one of these items due to clear redundancy when compared to the others. The reliability of the scale was very high (α = 0.91).

Table 2 Means, standard deviations, intercorrelations, and reliabilities

	Mean	SD	1	2	3	4	5	6
1. Medicines supplier	4.23	0.51	(0.76)					
2. Advice provider	4.31	0.52	0.57**	(0.86)				
3. Community health promoter	4.24	0.53	0.57**	0.66**	(0.85)			
4. Satisfaction	6.54	0.63	0.48**	0.50**	0.50**	(0.91)		
5. Loyalty	4.13	0.77	0.49**	0.59**	0.56**	0.48**	(0.77)	
6. Satisfaction with public hospitals***	3.72	0.80	0.09*	0.11**	0.09*	0.05	0.02	–

$N = 1200$; *$P < 0.05$; **$P < 0.01$; ***marker variable. All variables were measured on a scale of 1–5, with the exception of satisfaction with pharmacy, which were measured on a scale of 1–7.

Patient loyalty to the pharmacy was measured using four items taken from a scale of consumer commitment.[42] Although this concept tends to be seen as multidimensional, we used a one-dimensional measure that had already been used in Portugal[24] and which covers the main aspects of loyalty, such as the intention to remain a customer of the pharmacy or recommending it to friends. Respondents answer on a 5-point rating scale (1 = strongly disagree and 5 = strongly agree). The reliability of this scale was good ($\alpha = 0.77$).

To check common method variance, a marker variable[43] in the guise of the following question was used: 'Overall, how satisfied are you with the service provided by public hospitals in Portugal'. This was measured on a scale of 1–5, from not at all satisfied to very satisfied. The significance level used in this study was 0.05.

Analysis strategy

Given the categorical nature of the response set, we based our analysis on the polychoric correlation matrix and deployed the weighted least squares (WLSMV) estimator. Indeed, assessment of normality revealed a severe multivariate kurtosis (Mardia coefficient = 201.25). The WLSMV is a robust estimator which does not assume normally distributed variables and provides the best option for modelling categorical or ordinal data.[44,45] Initially, confirmatory factor analysis was performed to test the robustness of our proposed measurement model composed of five factors over an alternative measurement model composed of one latent variable determined by all observed variables. As values from the chi-squared test relative to the degrees of freedom are inflated by large sample sizes and this ratio is not recommended for categorical data[46] criteria to evaluate the model fit also included the comparative fit index (CFI), the Tucker–Lewis, the root mean square error of approximation (RMSEA) and weighted root mean square residual (WRMR), a promising experimental fit statistic for non-normal ordered categorical data that substitutes the standardized root mean square residual[44]. Table 3 shows the final results for the measurement model.

Results

The means, standard deviations, reliabilities and correlations among variables studied are presented in Table 2. Correlations were moderate but did not exceed 0.60, with one exception (advice provider – community health promoter, $r = 0.66$). This indicates an acceptable degree of multicollinearity.[47]

The correlations between marker variable and the other variables were between 0.02 and 0.11, coefficients that are sufficiently low for us to consider the common method effect to be negligible. The average values for the variables studied were high, but this trend corroborates other studies on pharmacy patients.[48] As the marker variable had a substantially lower average level, we can consider that the general attitude of patients towards the pharmacy is very positive.

The results of the measurement model test showed that the five factor model presented

Table 3 Measurement model

Observed variable	Latent construct	*B*	β	AVE	CR
How do you assess the pharmacy regarding...(scale 1–5)	Medicines supplier				
The availability of drugs/that I need		1.00	0.76		
The pharmacy's opening hours in relation to my needs		1.13	0.85		
The pharmacy' appearance and decoration		1.09	0.82	0.58	0.84
The availability of waiting space (If needed)		0.72	0.59		
Thinking about pharmacy' staff who serve you most often (scale 1–5)	Advice provider				
I feel I can trust the advice I receive from this pharmacy		1.00	0.85		
I find the necessary competence to be advised on how to improve my health		1.03	0.87	0.75	0.93
I feel I can trust in pharmaceutical advice		1.05	0.89		
I feel at easy to talk with pharmaceutics about my health problems		1.01	0.86		
Generally speaking about this pharmacy (scale 1–5)	Community health promoter				
I believe that this pharm. benefits the community/place where it operates		1.00	0.89		
We can say this pharm. has a good reputation in the community		0.88	0.79	0.74	0.92
Has a good reputation among its costumers		1.02	0.91		
This pharmacy is actively involved in the community		0.94	0.84		
How do you feel about this pharmacy? (scale 1–7)	Satisfaction				
Dissatisfied–Satisfied		1.00	0.95		
Unpleased–Pleased		1.00	0.95	0.89	0.97
Good–Bad		1.02	0.93		
Unhappy–Happy		1.02	0.95		
Considering the relationship you have with this pharmacy ...(scale 1–5)	Loyalty				
Even knowing that other pharm. offer better conditions, I'll still be a costumer		1.00	0.80		
I would not recommend this pharmacy to a friend (reversed)		1.07	0.86	0.59	0.85
I would defend this pharmacy if other people criticized it		0.74	0.59		
I feel a certain moral obligation to remain a costumer of this pharmacy		0.99	0.80		

B, regression estimate; β, standardized regression estimate; AVE, average variance extracted; CR, composite reliability.

acceptable fit ($\chi^2 = 607.55$, d.f. = 160, $P < 0.0001$; CFI = 0.99; TLI = 0.99; RMSEA = 0.05; WRMR = 1.04), whereas the same did not occur for the single factor model ($\chi^2 = 4700.03$, d.f. = 170, $P < 0.0001$; CFI = 0.94; TLI = 0.94; RMSEA = 0.15; WRMR = 4.50). Indicators of convergent validity surpassed recommended thresholds[49] (Composite reliability >0.70 and average variance extracted >0.50).

Fit indices for the structural model were acceptable ($\chi^2 = 607.55$, d.f. = 160, $P < 0.0001$; CFI = 0.99; TLI = 0.99; RMSEA = 0.05; WRMR = 1.04). Estimated regression coefficients are given in Table 4. The standardized regression coefficients and explained variance for satisfaction and loyalty are included in Fig. 2. These show that the assessment of roles played by pharmacies explained 50% of patients' satisfaction with pharmacies and 61% of patients' loyalty to these entities. All the relationships between pharmacies' roles and patients' reactions were in the expected positive direction. More precisely, the medicines supplier role was more related to satisfaction

Table 4 Estimated regression coefficients for the structural equation model

Relationship under examination	*B*	*P*-value	SE
Medicines supplier – Satisfaction	0.41	0.00	0.06
Advice provider – Satisfaction	0.27	0.00	0.07
Community health promoter – Satisfaction	0.22	0.00	0.06
Medicines supplier – Loyalty	0.14	0.00	0.04
Advice provider – Loyalty	0.44	0.00	0.04
Community health promoter – Loyalty	0.21	0.00	0.04
Satisfaction–Loyalty	0.06	0.00	0.02

N = 1200 patients; *B*, standardized regression estimates; *P*-value is two tailed; SE, standard errors.

than loyalty, advice provider role was more related to loyalty than satisfaction, and community health promoter role was equally related to satisfaction and loyalty. Generally, the results supported the suggested model describing pharmacies' integrated roles in expansion and positive relationship between these roles and satisfaction and loyalty.

Discussion

Following the trend observed in many western societies, Portuguese community pharmacists are adopting an extended role, adding the role of advice provider to the more traditional one of medicines supplier. As social actors, and to the extent that they are strongly embedded in the community, Portuguese pharmacies also fulfil a role as a promoter of community health, which is an expression of their social responsibility. If this expanded role is being taken up by pharmacists and increasingly recognized by the various relevant institutions in this field (WHO, the Pharmacists Association, the National Association of Pharmacies), its impact on patients is still relatively unknown. Our results show that, in Portugal, community pharmacies can be seen as economic and social agents that play three complementary roles (medicines suppliers, advice providers and community health promoters) and that these roles are positively related to both pharmacy customer satisfaction and loyalty, but more strongly to loyalty.

If satisfaction can be seen in a more humanistic way,[50] in that it relates to customer welfare, loyalty can have a more strategic sense, as it clearly precedes increases in revenue. It is worth noting that these results are consistent with CSR perspectives that highlight the need for organizations to satisfy the interests of multiple stakeholders, and it is not uncommon for initiatives of this nature to have a positive impact on organizational results.[30,51] These results are relevant for community pharmacies as they point to the need to develop an integrated strategy stressing, simultaneously, the three roles and making sure they are noticed by patients. Optimizing the supply chain and

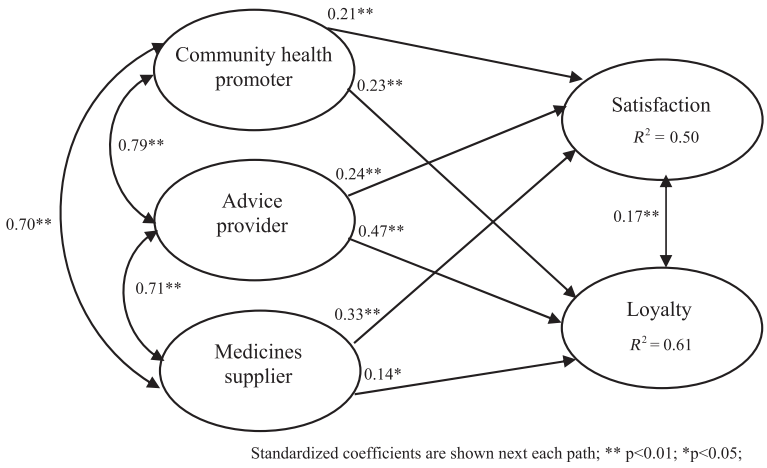

Figure 2 The relationship between pharmacies' roles and patients' satisfaction and loyalty.

the physical pharmacies' characteristics are possible ways to improve the medicines provider role, and, by doing this, mainly increasing patient satisfaction. Continuous training to develop both technical and interpersonal skills may assist to maintain or raise the level of advice provider role, probably contributing mainly to loyalty. Engaging in community oriented activities, supplying syringes for drug addicts, integrated waste management of packaging and out-of-date medicines, interest-free credit to buy medicines, training young people in schools on how to adopt healthier behaviours and effectively communicating these activities, are among the possibilities to improve the community health promoter role and, possibly, generate more satisfaction and loyalty among patients.

Although studies have generally found that pharmacists' non-dispensing roles have a positive effect on patient clinical outcomes and prescribing patterns,[6] there are fewer studies that investigate outcomes such as satisfaction and loyalty. Research shows that satisfaction with community pharmacies was related to relationship factors, general competence and pharmacy atmosphere,[52] whereas in ambulatory care research found that satisfaction was related to three factors – general staff communication, medication-focused communication and the clarity of written information.[53] Clearly some aspects of these findings overlap with those of the current study (e.g. general competence and communication could relate to any of our dimensions) but are not completely congruent. Our approach, driven by a theoretical framework and a perspective that emphasizes evolving professional roles, was to investigate perceptions of roles undertaken by community pharmacists in contrast to examining generic features such as atmosphere or communication.

In common with other areas of health care,[54] the lack of theoretical frameworks to understand satisfaction is a factor that has limited the field.[50,55] In this study, we have provided evidence about public reactions to the changing roles of community pharmacies and have built and tested a model that integrated how patients perceive and react to these changes. We used theory to distinguish three roles of community pharmacies and applied the CSR framework to examine how these roles affect customer satisfaction and loyalty. Both corporate ability and social responsibility are important dimensions in assessing the role pharmacies play in society. The model we developed was a fruitful approach and led to further insights into the relationships between satisfaction, loyalty, pharmacy roles and patients' characteristics. Patients perceive pharmacies via multiple dimensions and these contribute in different ways to levels of satisfaction and loyalty.

The results of this study support and extend the results of studies of patient satisfaction in community pharmacy and in other health-care settings. Studies of patient satisfaction in primary care have found that service quality is positively related to patient satisfaction[56] and that trust and good interpersonal relationships with the health-care provider predicted satisfaction and loyalty.[57,58] In cancer care, service quality was positively related to patient willingness to recommend the service.[59] Our results are in broad agreement, but provide deeper understanding by examining separately three major roles played by community pharmacies. Current approaches to understanding patient satisfaction focus on aspects of the interpersonal relationship with the clinician, but a different approach could be taken by examining the influence of perceptions of different roles, such as performing clinical procedures, providing advice and providing emotional support. Looking at healthcare organizations as entities playing roles in society can give a distinct understanding of factors underlying patients' reactions to health-care providers.

A potential limitation of this study is the validity of the three measures of pharmacy roles. In response to this limitation, one of the avenues of future theoretical and methodological development could be to further develop these scales and investigate and improve their psychometric properties.[53] Additionally, future research could determine the impact of the different roles on

patient reactions other than satisfaction and loyalty, such as awareness of the cause or attribution of causes of organizational activity, the variation of which could be the subject of further research. On the other hand, moderators of the relationship between CSR activities and internal outcomes and between internal and external outcomes could be examined. Future research could test more complex models than the one tested here, including several mediation and moderation relationships. External validity of the model could also be gained, by examining data from other countries.

In conclusion, this study supports the idea that the expansion of Portuguese pharmacists' role, in line with the global trend for pharmacists to move from a focus on providing, dispensing and prescription checking service to a public health role, framed within a context of social expectations regarding organizations' community involvement, is generating favourable results for patients and pharmacists.

Acknowledgements

This study was founded by Ordem dos Farmacêuticos. The views expressed in the study represent those of the authors without any influence from the funding body.

Conflict of interest

The authors do not have any conflict of interest related to this research.

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