



## Proposed Model

## Patients' expectations of the role of the community pharmacist: Development and testing of a conceptual model



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## A B S T R A C T

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**Background:** The roles of community pharmacists are evolving to include provision of expanded professional pharmacy services, thus leading to an increased interest in pharmacist–patient interactions. Role theory can be used to explain the interaction between this pair of individuals, by focusing on the roles performed by each one.

**Objective:** To develop and test a model that relates patients' image of the pharmacist to their expectations of pharmacist's role, and how this then influences patients' reactions toward the pharmacist's role.  
**Methods:** A qualitative study was undertaken, and a questionnaire was created for the development of the model, based on role theory. The content, dimensions, validity and reliability of the questionnaire were pre-tested qualitatively and in a pilot mail survey. The reliability and validity of the proposed model were tested using confirmatory factor analysis (CFA). Structural equation modelling (SEM) was used to explain relationships between dimensions of the final model.

**Results:** A final model was developed. CFA concluded that the model was valid and reliable (Goodness of Fit indices:  $\chi^2(109) = 227.662$ ,  $P = 0.000$ , RMSEA = 0.05, SRMR = 0.05, GFI = 1.00, NNFI = 0.90, CFI = 0.92). SEM indicated that “perceived pharmacist image” was associated positively and significantly with both “professional expectations” (the standardized path coefficient of (H) = 0.719,  $P < 0.05$ ), as well as “courtesy expectations” (the standardized path coefficient of (H) = 0.582,  $P < 0.05$ ). At the same time, “professional expectations” were associated positively and significantly with “positive reactions” (the standardized path coefficient of (H) = 0.358,  $P < 0.05$ ), but negatively with “Negative reactions” (the standardized path coefficient of (H) =  $-0.427$ ,  $P < 0.05$ ). “Courtesy expectations” were associated positively and significantly with “positive reactions” (the standardized path coefficient of (H) = 0.081,  $P < 0.05$ ), as well as “negative reactions” (the standardized path coefficient of (H) = 0.450,  $P < 0.05$ ).

**Conclusions:** A valid and reliable model of patients' image of the pharmacist related to their expectations and reactions to the pharmacist's role was developed and tested. When the perceived image of the pharmacist is enhanced, patients' expectations of the pharmacist are heightened; in turn, these expectations were associated with reactions of patients.

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### Introduction

Over the last three decades, community pharmacists have expanded their roles beyond dispensing.<sup>1–5</sup> This role expansion has led to an increased interest in a patient-centered approach and presumed enhancements the pharmacist–patient interaction.<sup>6,7</sup>

Role theory explains the interaction between individuals,

focusing on the roles performed by each one.<sup>8,9</sup> According to the cognitive perspective of this theory, a role is generated by a set of expectations that society places on an individual occupying a determined position in a social system.<sup>8,10</sup> There are some social norms in relation to each role that include specific knowledge requirements, attitudes and behaviors that are expected of that individual.<sup>7–9,11–14</sup> Moreover, the role of one individual generates differing reactions in the ‘other’ individual, which in turn assist in confirming or validating the latter role.<sup>8,14</sup> Role theory consists of a set of dimensions: a “role” (characteristic behavior associated to a particular social position); “expectations” (norms, preferences and beliefs; for example, it is expected that a pharmacist would have a dispensing role but not a service provider role); and “reactions to behavior” (positive and negative consequences from a determined behavior; for example, when the pharmacist delivers professional services, patients could have a positive reaction accepting this service and return to the pharmacy).<sup>9,14</sup>

The expansion of the role of the pharmacist as a service provider may be resulting in changing patient perceptions of the community pharmacist.<sup>15–19</sup> This could be considered as the overall patients’ impression of the community pharmacist as a health care professional, and for this study it has been labeled as the “perceived pharmacist image.” It can be influenced by different factors inherent to the professional, such as their personal appearance and attire, but also by some external factors such as the retail environment.<sup>20–24</sup> On the other hand, some studies show that patients’ expectations of pharmacists still appear to be related to their dispensing role.<sup>11,25</sup> It is known from previous studies that patients’ satisfaction with pharmacists’ interaction is high; however, this can be due to patients’ level of expectations of the pharmacist.<sup>26,27</sup> Patients are still unaware what expanded professional services a pharmacist is able to provide, are not interested in those expanded professional services, or prefer other professionals to deliver them.<sup>2,28,29</sup> Therefore, it is important to understand patients’ expectations of the pharmacist in order to know and meet those expectations, and to provide efficient expanded professional services.<sup>11,30</sup> As expanded pharmacy services might modify patients’ perception of the image of the pharmacist, that professional image could in turn influence patients’ expectations and reactions to pharmacists’ roles.

A literature review was performed to assess how role theory had been used in the pharmacy context showing that observations and surveys were carried out. However, no conceptual model using role theory was developed.<sup>8</sup> Role theory has been previously used in pharmacy to assess patients’ beliefs of the pharmacist’s role,<sup>7,11</sup> or their knowledge of the role of the pharmacist.<sup>12</sup> Role theory could provide a useful theoretical framework to test how patients’ perceptions of the professional image of the pharmacist influence their expectations of the pharmacist’s role and, in turn their reactions to the emerging role of the community pharmacist.

This study was aimed at developing and testing a conceptual model of how patients’ perceived image of the pharmacist influences their expectations of the pharmacist’s role, and how this then influences patients’ reactions with respect to that role. Moreover, as a secondary objective, this study assessed whether these expectations and reactions were modified when expanded professional pharmacy services were provided versus usual care.

## Methods

### *Development of the model*

Based on role theory,<sup>8,13,14</sup> a qualitative study was carried out in a community pharmacy setting in Spain to operationalize those dimensions, and so develop a quantitative questionnaire that could

be applied in further stages of this research.<sup>31–33</sup> Semi-structured interviews were used and conducted over a 2-month period (September–November 2011) continuing until no new content in relation to identified themes and no additional themes emerged, indicating data saturation.<sup>34</sup> The themes of the pharmacist’s role covered were: “patients’ expectations” and “patients’ reactions.” Nineteen elderly poly-medicated (five or more drugs) patients older than 64 years old, from eight sampled community pharmacies of two regions of Spain (Murcia and Gipuzkoa) were interviewed. The interviews were digitally recorded, with consent from the participants, and transcribed verbatim. NVIVO software was used to facilitate the analysis of all transcripts ( $n = 19$ ).<sup>35</sup> Some themes, which emerged from this work, were that patients expected to receive the medication without waiting, and a more proactive behavior of the pharmacist (such as the pharmacist to provide more information and advice about the treatment).<sup>33</sup> Ethical approval of the study protocol was granted by the University of Granada’s Human Research Ethical Committee.

As a result of the qualitative analysis, a new dimension labeled “perceived pharmacist image,” was identified. This dimension was independent of role theory (Table 1). Role theory dimensions “expectations” and “reaction to behavior” were further disaggregated (Table 1). As no conceptual model, using Role Theory,<sup>8</sup> had been created previously; a first draft of a questionnaire was developed based on the qualitative study and the literature of Role theory (Table 1).<sup>8,13,14</sup> This draft consisted of 48 items grouped into the role theory dimensions and 7 items for the new dimension “perceived pharmacist image” (Tables 1 and 2).<sup>36,37</sup> A seven-point, Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree), was used to rate each item. Three experts in the area were invited to review the instrument and to identify and confirm the dimensions. A pre-test was carried out with 5 patients to assess face validity of the instrument.<sup>36,37</sup>

A pilot questionnaire of a random sample of 100 patients (response rate = 71%) from pharmacies participating in the program “conSIGUE” in the Spanish provinces of Murcia and Gipuzkoa was carried out to investigate the content and construct validity.<sup>38</sup> Exploratory factor analysis was applied with maximum likelihood extraction method and varimax rotation. The results of the exploratory factor analysis of the pilot indicated good consistency and reliability (with eigenvalues greater than one and item loadings greater than 0.5), and allowed reducing items (Tables 1 and 2).<sup>38</sup> The final questionnaire consisted of 16 items for “professional expectations,” 8 items for “courtesy expectations,” 4 items for “positive reactions,” 4 items for “negative reactions” and 5 items for “perceived pharmacist image” (Tables 1 and 2). Each item was rated using a seven-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree). This questionnaire was delivered to patients through 114 pharmacies (both intervention and control pharmacies), 5–6 months after the intervention started, in three of the four provinces (Granada, Las Palmas and Tenerife) participating in the conSIGUE program. The potential target for this research was a sample of 878 elderly (over 64 years old) polypharmacy (using 5 or more medicines) patients. A covering letter explaining the relevance of the research and requesting a response from the patients was included.

The conSIGUE study was a cluster randomized trial with an objective to evaluate the clinical, economic and humanistic impact of a Spanish expanded professional pharmacy service, Medication Review with Follow Up.<sup>39,40</sup> Moullin et al defined a professional pharmacy service as “an action or set of actions undertaken in or organized by a pharmacy, delivered by a pharmacist or other health practitioner, who applies their specialized health knowledge personally or via an intermediary, with a patient/client, population or other health professional, to optimize the process of care, with

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