

Original Research

Low back pain management attitudes and pharmacy practice: the impact of community pharmacists' characteristics.

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Abstract

Background: Low back pain (LBP) is one of the most frequent diseases for which patients seek advice in a community pharmacy. There is evidence to suggest that LBP-related negative beliefs are associated with increased levels of pain and impairment. **Objective:** This study evaluated the attitudes, beliefs, and practices of community pharmacists who advise patients with acute or chronic LBP. **Methods:** This is a cross-sectional study conducted among licensed community pharmacists, which were selected randomly in Abu Dhabi, Dubai, and the Northern Emirates. The survey took place via a questionnaire and face-to-face interviews. The questionnaire covered questions on demographics and the participants' attitudes, beliefs, and practices regarding LBP management. Multivariate logistic regression was employed to identify the factors influencing respondents' practices in relation to LBP therapy, while multivariate linear regression was used to identify the factors influencing respondents' attitudes toward LBP management. **Results:** A total of 867 participants enrolled in the study. 63% were female, 53.9% of the surveyed pharmacies were independent pharmacies, 68.9% had more than ten years of experience, 55.7% graduated from regional/international universities, 84.5% were Bachelor's degree holders, and 63.5% were Pharmacists in charge. Bivariate analysis showed that chain pharmacies ($P < 0.001$), having more than ten years of experience ($P < 0.001$), graduated from regional/international universities ($P < 0.001$), and pharmacists in charge ($P < 0.001$) were more likely to score higher in attitude and practice towards the management of LBP. **Conclusion:** Community pharmacists in the UAE have a positive attitude and practice when it comes to managing lower back pain. Community pharmacists' recommendations for low back pain care in the UAE largely coincide with clinical practice for low back pain.

Keywords: low back pain; knowledge; attitude; community pharmacy; beliefs

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INTRODUCTION

A disorder of the dorsal-lumbar back area between the buttocks and the inferior margin of the scapula can result in low back pain (LBP).¹ One of the major public health issues in Western nations is LBP, which is a significant cause of a global decline in patients' quality of life.² LBP has impacted 67% to 84% of people in industrialized nations at some point in their lives.^{3,4} Between the ages of 35 and 55, the prevalence rate peaks,⁵ increasing from childhood to adolescence. LBP symptoms typically develop, and clinical consequences become more likely if untreated. Patients with LBP frequently describe functional problems, challenges performing everyday activities, and difficulties interacting with others.⁶ Additionally, LBP-induced disabilities significantly affect healthcare costs and patients' ability to work.⁷

Pain perception and disability are known to be influenced by biophysical, psychological, and social variables.⁸ People's perceptions of their backs and LBP is one of the biopsychosocial aspects that are thought to be significant in relation to both disability and overall recovery.⁹ This may include the notion that LBP is an indication of structural damage and, as such, the back needs to be protected. If a person with LBP exhibits counterproductive behavior, such as fear-avoidance behavior



or a general overprotective approach, such beliefs may impact their behavior and, in turn, their recovery.⁹⁻¹³ Evidence suggests that LBP-related negative beliefs are associated with increased levels of pain and impairment across the board.^{14,15}

Additionally, attitudes and ideas regarding the condition's progress and management are crucial because they affect how much disability and distress are reported to be present and how severe they are.¹⁶ All healthcare practitioners need to be aware of the fundamentals of back pain management in order to increase the likelihood of a successful outcome and reduce variation in care. Additionally, they must be certain that, as suggested by international standards,¹⁷ an active management strategy represents the appropriate course of action.

LBP is one of the most common clinical concerns reported to community pharmacists (CPs) and the fifth most common cause for patients to consult their general practitioner (GP) in the United States of America (USA), owing to its global prevalence.¹⁸ In this situation, CPs can advise patients on the best method of self-medication or assist them in effectively following a doctor's prescription.

However, the CP's responsibilities are not solely restricted to dispensing medication. The CP is a resource that isn't being fully utilized, despite the fact that it has the potential to be very helpful and proactive in the initial assessment and ongoing management of LBP. As a result of their extensive presence in any location and regular interaction with patients, CPs may benefit from a variety of support tools, including the ability to set up educational support interviews, conduct follow-ups, and track the effectiveness of implemented interventions.¹⁹⁻²³ It is crucial to define validated approaches and support systems for LBP patients. Numerous convenient sites offer walk-in consultations with community pharmacists. They are in a great position to support the recommendations of other medical professionals and provide prompt guidance to individuals when low back pain first manifests. Community pharmacists might, for instance, supply over-the-counter (OTC) analgesics and nonsteroidal anti-inflammatory medicines (NSAIDs), comfort, provide relevant information and/or guidance, and counsel people with "red flags" to seek medical attention. Even though community pharmacists and their employees carry out all of these tasks, nothing is known about the standard of care given to back pain sufferers in pharmacies. The professional, patient-related, and environmental aspects that affect the quality of this care need to be taken into consideration. The individual practitioners' knowledge, abilities, and attitudes are the primary professional factors. Most significantly, it would be beneficial to confirm that bed rest is not being advised, as this is typically thought to be hazardous. Previous studies²⁴⁻²⁷ have looked into the beliefs and methods of family doctors, specialists, and physical therapists. There is currently a lack of data pertaining to pharmacies where LBP patients ask CPs for help managing their condition. The current study aimed to evaluate the attitudes, beliefs, and practices of community pharmacists who advise patients with acute or chronic LBP. It also sought to share recommendations about the pharmacists' role and training requirements in relation to the self-management of back pain.

METHODS AND MATERIALS

Study design and setting

A cross-sectional study was conducted to evaluate community pharmacists' attitudes, beliefs, and practices towards the treatment of LBS in the UAE. Between April 2022 and December 2022, a survey of professionals employed by community pharmacies across the UAE, including Abu Dhabi, Dubai, and the Northern Emirates, was carried out by seven pharmacy students in their final year of study. Before conducting the face-to-face interviews, the students were thoroughly trained in the use of the questionnaire and the scientific terminology used in the study. This was due to previous research showing that such training enhances the abilities of the interviewers and reduces the occurrence of survey errors.

Development and pilot testing of research instrument

Based on an analysis of the extant literature,²⁸⁻³⁰ a structured questionnaire was first created to ensure the study points were relevant to the UAE context.

Osteopathic specialists were consulted to ascertain whether the questionnaire's format and applicability to the study were adequate. Furthermore, the questionnaire's suitability and relevance were evaluated by five members of the faculty of medicine and clinical pharmacy at Ajman University. Before conducting a pilot test, the questionnaire was slightly adjusted based on expert recommendations. These suggestions included clarifying the scientific jargon, reordering the pages and questions, changing the term "Sex" to "Gender", linking certain questions, and ending the questionnaire at specific responses.

Lawshe's content validity was also used to verify the questionnaire's content validity before pilot testing.³¹ This approach considers any item with a content validity ratio (CVR) above 0.78 acceptable, while any items that fall below this cutoff are eliminated.³¹ All of the survey's items had CVRs above 0.78, which indicates that their validity is sufficient. The content validity index (CVI) of the final research instrument was later calculated using the means of the items with acceptable CVR values. The questionnaire used for the research has a CVI value of 0.871, which is considered to represent generally acceptable validity.³²

Following that, between April 15 and 22, 2022, a pilot test was conducted to evaluate the questionnaire's face validity. In total, fifty community pharmacists participated in the pilot phase of the research. However, their data were not included in the final analysis. Of the 50 initial participants, 44 successfully completed the questionnaire. The reliability of the questionnaire was then evaluated, and the size of the main research sample required for the research was estimated using the pilot study results. We used Cronbach's alpha to assess the questionnaire's reliability, and the resultant Cronbach's alpha of 0.76 indicates that the internal consistency is satisfactory.

Research instrument sections

The study questionnaire was divided into three sections. The



first section included six questions concerning the respondent's gender, occupation as a pharmacist (either Chief Pharmacist or Pharmacist in Charge), years of work experience, and the university where they earned their degree. The second section included 14 statements about the inevitable negative effects of LBP, which were used to assess attitudes and views toward LBP management via the Beliefs and Behavior Questionnaire (BBQ). Respondents were asked to rate each statement on a Likert scale of 1 to 5. However, only nine of these statements were included in the questionnaire's final version.³³ In the third section, the respondents' practices for managing LBP were evaluated using seven questions, each requiring a response of either "yes" or "no."

Questionnaire scoring

The participants' attitudes to LBP were evaluated across nine items. These were assessed using a 5-point Likert scale (1= "Strongly disagree", 2= "Disagree", 3= "Neutral", 4= "Agree", 5= "Strongly Agree"). The scores were reversed before the raw scores of 1 to 5 were calculated for each respondent by tallying the grading for the nine items, with higher scores indicating a more positive attitude.

Practice items consisted of nine Yes/No questions. Practice on low back pain management had only one "correct" answer, and the rest were "incorrect". One point was given for each correct answer, and the practice score was calculated by tallying the points for each question. A median score was generated to determine the good practice score for each participant and categorize the scores for LBP management practices into good and poor practices. The median score was determined to be six. As a result, participants who scored 6 or more were considered to have good LBP management practices, whereas those who scored less than 6 were considered to have poor practices.

Sample size calculation

The purpose of the pilot study was to determine the required sample size for the main study. The pilot study's overall response rate was 88%. The final sample size was estimated using the following question: "There is no effective treatment for low back pain." About 55% of respondents said that they agreed with this statement. The study's alpha level was set at 5%, giving a 95% confidence interval (CI). The maximum width for the 95% CI was set to 10%, while the precision (D) was set at 5%. Given these presumptions and a 60% non-response rate, a sample size of 952 respondents was deemed sufficient.

Target population

The study sample for the main research was chosen using the following criteria. Respondents had to be community pharmacists with at least three months of professional experience who work independently or as part of chains that are registered with the relevant regulatory bodies, such as the Ministry of Health and Prevention, the Health Authority Abu Dhabi (HAAD), or the Dubai Health Authority, to be eligible to participate in the study. The exclusion criteria included no registration with any of the aforementioned authorities and having less than three months of professional experience, i.e.

being freshly qualified or still in the probationary period.

Sampling technique

A random sample technique was applied to ensure representativeness. A survey conducted in 2010 found that 2000 community pharmacies were operating in the UAE.³⁴ From the Yellow Pages and local business directories in the study's regions of choice, we extracted the contact information for community pharmacies, along with their location.

The sample was stratified by grouping community pharmacies in the UAE based on their location. This resulted in the identification of three strata, including community pharmacies in Dubai, community pharmacies in Abu Dhabi, and community pharmacies in the Northern Emirates. Following the selection of the community pharmacies, all pertinent information was recorded into an Excel spreadsheet that served as a sample frame, including the pharmacy's name, location, type, phone number, and email address. Each pharmacy received a unique ID number, and a simple random sample selection was made to choose 952 community pharmacies from the complete list of pharmacies. The community pharmacies were then categorized according to their location and type.

Data collection

Between April 27 and December 17, 2022, the researchers visited the chosen community pharmacies in Abu Dhabi, Dubai, and the Northern Emirates. The aim of the research was explained to the pharmacists, and they were requested to provide their email addresses. Finally, using a standardized questionnaire, the trained researchers conducted in-person interviews.

Statistical analysis

SPSS Version 24 was used to examine the data that had been gathered. The continuous, normally distributed quantitative variables were described as a mean \pm standard deviation (SD), while the categorical quantitative variables were summarized as frequencies (provided in percentages). Unpaired student t-tests, one-way ANOVA, and non-parametric variations were all used to determine whether there were differences between the quantitative variables for the groups. Multivariate logistic regression was employed to identify the factors influencing respondents' practices in relation to LBS therapy, while multivariate linear regression was used to identify the factors influencing respondents' attitudes toward LBP management. The findings were deemed to be statistically significant for p-values under 0.05.

Ethical considerations

The Institutional Ethical Review Committee of Ajman University approved this work (P-H-S-2021-2-24). Before their data was collected, the respondents were made aware of the study's objectives and told that the questionnaire would only be filled out and submitted with their full consent. Each participant signed a written statement of informed consent. Participants' identities were not recorded in the study, and their privacy was protected throughout the research.



RESULTS

Demographic characteristics of the study participants

Demographic characteristics are shown in Table 1. A total of 867 participants enrolled in the study. The average was 32 ± 4.3 . Of the total, 37% (n=324) were male, and 63% (n=552) were female. About half of the surveyed pharmacies (53.9%) were independent pharmacies, and 46.1% were chain pharmacies. The majority of the participants (68.9%) had more than ten years of experience. Among the total, 388 participants (44.3%) graduated from local universities, and 488 (55.7%) graduated from regional/international universities. The vast majority of the participants (84.5%) were Bachelor's degree holders. Pharmacists in charge constituted 63.5% of the sample, and 36.5% were chief pharmacists.

Demographic	Groups	Frequency	Percentage
Age	Mean (\pm SD)	31 (\pm 6.5)	
Gender	Male	324	37%
	Female	552	63%
Pharmacy type	Independent pharmacy	472	53.9%
	Chain pharmacy	404	46.1%
Experience years	1-10 years	272	31.1%
	More than 10 years	604	68.9%
University of graduation	Local	388	44.3%
	Regional/international	488	55.7%
Education	Bachelor	740	84.5%
	Postgraduate	136	15.5%
Position	Chief pharmacist	320	36.5%
	Pharmacist in charge	556	63.5%

Pharmacists' attitude and practice about the management of low back pain

The average attitude score about low back pain management was 80.1% with a 95% confidence interval (CI) [79.3 - 81%], and the average practice score about low back pain management was 81.3% with a 95% confidence interval (CI) [80 - 82.7%]. In general, the attitude and practice regarding low back pain management were good among the community pharmacists. The results of each question related to attitude and practice are shown in Tables 2 and 3.

Based on demographic factors, Table 4 displays the scores for attitudes and practices regarding managing low back pain. The bivariate analysis revealed that female gender (P=0.011), working at a chain pharmacy (P0.001), having more than 10 years of professional experience (P0.001), graduating from regional/international universities (P0.001), holding a postgraduate degree (P0.001), and being a Pharmacist in Charge (P0.001) were significantly associated with better attitudes toward managing LBP.

Similarly, working at a chain pharmacy (P0.001), having more than 10 years of professional experience (P0.001), graduating from regional/international universities (P0.001), and being a Pharmacist in Charge (P0.001) were all significantly associated with better scores in LBP management practices.

Factors associated with pharmacist' attitude and practice regarding low back pain management

The regression analysis results for the factors associated with low back pain management are shown in Tables 5 and 6.

Better attitude scores were observed in; females ($\beta=2.07$; 95% CI 1.26-3.88), having more than ten years of experience ($\beta=2.04$; 95% CI 1.21-2.88), graduating from regional/international universities ($\beta=6.20$; 95% CI 5.53-6.87), being a pharmacist in charge ($\beta=7.27$; 95% CI 6.61-7.93) and older participants ($\beta=0.064$; 95% CI 0.003-0.124) (Table 5).

The findings revealed that working in chain pharmacies (OR1.91; 95% CI 1.66-2.21), having more than ten years of professional experience (OR1.97; 95% CI 1.44-2.13), graduating from regional/international universities (OR1.81; 95% CI 1.57-2.08), holding postgraduates degrees (OR1.23; 95% CI 1.62-2.88) and and being a pharmacist in charge (OR1.89; 95% CI 1.65-2.17) were associated with better practice scores for managing low back pain, as shown in Table 6.

DISCUSSION

Pharmacists are often the most accessible healthcare professionals and play a crucial role in managing and treating various types of pain, including low back pain (LBP). Thus, they must possess positive attitudes and practices regarding LBP management to provide their patients with the best care. Additionally, pharmacists should have knowledge of pain management options, including non-pharmacological and pharmacological treatments, as well as the potential side effects and risks associated with these treatments. They should be able to educate patients and caregivers, monitor treatment efficacy, and adjust treatment as needed.^{35,36} The goal of this study was to evaluate the attitudes, beliefs, and practices of community pharmacists who provide advice to patients with acute or chronic LBP. It also sought to share recommendations about the pharmacists' role and training requirements in relation to the self-management of back pain. Furthermore, patients with low and medium-intensity LBP are frequently seen by GPs or community pharmacists, putting community pharmacists in a unique position to collect and interpret health status data as well as provide advice to patients.³⁷ In recent years, community pharmacists have increased involvement in non-dispensing roles,²⁰ emphasizing the significance of this study since LBP is one of the most frequent musculoskeletal disorders reported by patients to CPs.³⁷

Unlike other studies on low back pain that concentrate on the pharmacists' knowledge of LBP and its treatments, this study primarily evaluates their attitudes, beliefs, and practices. In this study, the majority of respondents were female, worked in independent pharmacies, had more than



Table 2. Number and percentage of the questions on attitude about low back pain

Attitude items	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
1. Back trouble cannot be treated	56	6.4	28	3.2	160	18.3	248	28.3	384	43.8
2. Patients with back trouble will ultimately have to stop working	72	8.2	72	8.2	144	16.4	244	27.9	344	39.3
3. If someone has back trouble, they will experience pain for the rest of their lives	72	8.2	56	6.4	168	19.2	332	37.9	248	28.3
4. Back trouble adversely affects everything else in life	28	3.2	24	2.7	104	11.9	172	19.6	548	62.6
5. Patients with back trouble are likely to need a wheelchair in the future	144	16.4	40	4.6	64	7.3	100	11.4	528	60.3
6. Patients with back trouble need to take a lot of time off work	64	7.3	72	8.2	184	21.0	132	15.1	424	48.4
7. If someone has back trouble, they will always have a weakness	60	6.8	128	14.6	200	22.8	240	27.4	248	28.3
8. Rest is the best treatment for back trouble	12	1.4	8	0.9	148	16.9	296	33.8	412	47.0
9. Back trouble worsens progressively over the patient's lifetime	0	0	16	1.8	76	8.7	212	24.2	572	65.3

Abbreviations: F, frequency; %, Percentage, Nots: The scale is calculated by reversing and summing the nine scores

Table 3. Number and percentage of the questions on practice about low back pain management

Practice items	Yes		No	
	F	%	F	%
1. Advise on appropriate analgesic treatment	708	80.8	168	19.2
2. Tell the patient to be careful and not do any activities that lead to pain	784	89.5	92	10.5
3. Ask the patient whether they have tried to seek pain relief in the short term by applying a cold pack or local heat	748	85.4	128	14.6
4. Advise on the benefits of movement and regular walks to treat back pain	776	88.6	100	11.4
5. Alert the patient to the fact that returning to work may worsen their back pain	836	95.4	40	4.6
6. Recommend that the patient continues with their leisure activities	632	72.1	244	27.9
7. If the patient is still experiencing pain and is struggling to return to normal activities, suggest that they see a GP or therapist.	720	82.2	156	17.8

Abbreviations: F, frequency; %, Percentage, Nots

Table 4. Attitude and practice score according to demographics

Demographic Variables	Attitude score				Practice score			
	Mean ± SD	Median	P- value		Mean ± SD	Median	P- value	
Gender								
Male	35.38	6.45	36	0.010*	5.59	1.46	6	0.103
Female	36.44	5.53	37		5.75	1.38	6.51	
Pharmacy type								
Independent pharmacy	35.31	6.01	36	< 0.001*	5.36	1.51	5	< 0.001*
Chain pharmacy	36.92	5.68	38		6.07	1.17	6.71	
Experience years								
1-10 years	34.64	5.98	35	< 0.001*	5.44	1.18	5.5	< 0.001*
More than ten years	36.68	5.77	37		5.80	1.49	6	
University of graduation								



Local	32.59	5.68	33	< 0.001*	5.27	1.46	5	< 0.001*
Regional/international	38.80	4.47	40		6.02	1.27	6	
Education								
Bachelor	36.31	5.57	37	0.002*	5.73	1.29	6	0.052
Postgraduate	34.64	7.32	36		5.47	1.90	5.81	
Position								
Chief pharmacist	31.43	5.48	31	< 0.001*	5.13	1.44	5.3	< 0.001*
Pharmacist in charge	38.71	4.29	40		6.01	1.28	6.5	
Notes: P-values less than 0.05 were considered statistically significant; P-values obtained from the Mann-Whitney U tests								

Table 5. Regression analysis for the factors affecting the attitude about low back pain management

Factors	Attitude score			
	B	95% CI		P-value
Gender (Ref. Male)				
Female	2.067	1.257	3.876	0.010*
Pharmacy type (Ref. independent pharmacy)				
Chain pharmacy	1.607	0.828	2.387	< 0.001*
Experience years (Ref. 1-10 years)				
More than 10 years	2.042	1.205	2.878	< 0.001*
Graduation (Ref. Local university)				
Regional/international	6.205	5.532	6.879	< 0.001*
Education (Ref. Bachelor)				
Postgraduate	-1.666	-2.744	-0.589	0.06
Position (Ref. Chief pharmacist)				
Pharmacist in charge	7.275	6.619	7.930	< 0.001*
Age	0.064	0.003	0.124	0.038
Notes: attitude was assessed by nine-items rated on 5-points Likert scale; P-values less than 0.05 were considered statistically significant, Abbreviations: B, Un-standardized Coefficients; CI, confidence interval.				

Table 6. Regression analysis for the factors affecting the practice of low back pain management

Factors	Practice score (median ≥ 6)			
	OR	95% CI		P-value
Gender (Ref. Male)				
Female	1.138	0.990	1.307	0.068
Pharmacy type (Ref. independent pharmacy)				
Chain pharmacy	1.918	1.665	2.210	< 0.001*
Experience years (Ref. 1-10 years)				
More than ten years	1.97	1.442	2.136	0.001*
Graduation (Ref. Local university)				
Regional/international	1.813	1.574	2.088	< 0.001*
Education (Ref. Bachelor)				
Postgraduate	1.23	1.618	2.882	0.001*
Position (Ref. Chief Pharmacist)				
Pharmacist in charge	1.897	1.656	2.172	< 0.001*
Age	0.997	0.987	1.008	0.605
Notes: P-values less than 0.05 were considered statistically significant Abbreviations: OR, odd ratio; CI, confidence interval.				



ten years of professional experience, graduated from regional/international universities, held a Bachelor's degree, and worked as pharmacists in charge. The selected community pharmacists showed a good level of attitude and practice regarding low back pain management. Most respondents strongly disagreed that there is no real treatment for back trouble. The majority also disagreed that back pain would eventually prevent you from working, resulting in periods of pain for the rest of your life, making everything in life worse, possibly requiring you to use a wheelchair, requiring long periods off work, causing constant weakness, requiring rest, and getting progressively worse later in life. This reflects the respondents' generally positive attitude toward LBP management. Other studies have reported a similar trend.³⁸ Positive attitudes and beliefs among healthcare professionals are linked to the successful implementation of guideline recommendations.³⁹ In contrast, an overly cautious approach towards LBP among healthcare professionals may result in incorrect management of the condition.³⁸

Furthermore, the majority of the respondents answered in the affirmative as regards suggesting adequate analgesia, advising on being careful and avoiding doing anything painful, asking if either a cold pack has been tried or if local heat has been applied for short-term pain relief, suggesting that movement is good for back pain and regular walks might help, warning that returning back to work would likely worsen the pain, suggesting regular leisure activities, and recommending that GP or a therapist should be consulted if the pain persists and if getting back to normal activities is difficult. This implies positive practice among community pharmacists as regards LBP management. The updated clinical practice by American college of physicians (ACP) for the management of LBP, recommends appropriate exclusion of a critical cause, the encouragement of a positive prognosis, the need to stay active, avoiding lengthy bed rest, and treatment with non-drug therapies for persons with LBP, which conforms to the findings of this study. Evidence-based guidelines recommend staying active and avoiding extended periods of bed rest; however, practice surveys have demonstrated that these steps are frequently disregarded, thus raising health risks to consumers and expenses to society.⁴⁰ This shows that community pharmacists in Abu Dhabi, Dubai, and the Northern Emirates are cognizant of the guidelines of LBP treatment, thus reducing the risks of associated adverse effects in patients in the communities.

A statistically significant relationship was established between attitude towards the management of LBP and female gender, chain pharmacies, having more than ten years, graduation from regional/international universities, postgraduate education holders and pharmacists. Similarly, practice scores in LBP management showed a statistically significant association with chain pharmacies, having more than ten years of graduation from regional/international universities and pharmacists in charge. Similarly, in a related study,⁴¹ age, work experience, nature of work, and work location were determined as significant factors that affect their attitude toward LBP. This consistency indicates that the attitude of CPs towards LBP increases with the experience of the CP. Attitude toward pain management can be explained based on education and training on pain

management as well as priority/attention in the healthcare sector.⁴¹ A negative demeanor is a significant factor in pain assessment. More than half of those polled had more than ten years of practice experience, which appears to be associated with greater knowledge of lower back pain. This finding is compatible with the view that experience has a considerable direct effect on pharmacists' knowledge, perceptions, and attitudes regarding chronic pain,⁴² but is inconsistent with a finding that physicians with more practice experience display less accurate factual knowledge.⁴³ Recommendations provided by community pharmacists in the UAE with regard to LBP management typically align with clinical practice for low back pain. On the contrary, Alorfi *et al.*, (2022) reported a negative attitude toward pain and pain management among most pharmacists across Saudi Arabia.

There are some limitations to this study. One of them is a lack of comparative studies to draw comparisons. Another limitation is the possibility of information bias, as the pharmacists polled may not have given truthful responses. Furthermore, because this study only included community pharmacists in the UAE, the results may differ compared to other regions or countries with different settings. As a result, additional validation is required through research in other locations.

CONCLUSION

The community pharmacists in the UAE show a positive attitude and practice towards lower back pain management. Both factors were shown to be statistically dependent on work location, job roles and work experience. This suggests that pharmacists in the UAE understand best practices for managing low back pain and can make appropriate recommendations to patients. However, continuing education and training are still required to ensure that all pharmacists maintain high levels of knowledge and competence in managing low back pain.

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AVAILABILITY OF DATA AND MATERIALS

All data will be provided upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The Institutional Ethical Review Committee of Ajman University approved this work (P-H-S-2021-2-24). Before their data was collected, the respondents were made aware of the study's objectives and told that the questionnaire would only be filled



out and submitted with their full consent. Each participant signed a written statement of informed consent. Participants' identities were not recorded in the study, and their privacy was protected throughout the research.

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COMPETING INTERESTS

All authors declare that they have no conflicts of interest.

CONSENT FOR PUBLICATION

All authors are agreed for publication of this manuscript in

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