

## Original Research

# Assessment of job satisfaction among community pharmacists in Baghdad, Iraq: a cross-sectional study

Inas R. IBRAHIM , Mohamed I. IBRAHIM , Ibrahim A. MAJEED, Zahraa ALKHAFAJE .

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### Abstract

**Background:** Pharmacists have the unique position of providing safe and effective care. Hence, addressing their feelings about their working life is crucial to provide good pharmacy services.

**Objective:** this study aimed to assess job satisfaction among Iraqi community pharmacists and determine the effect of pharmacist characteristics on job satisfaction.

**Methods:** A cross-sectional study was conducted among community pharmacists in Baghdad, the capital of Iraq. A simple random sample technique was adopted to select community pharmacists. A survey questionnaire using Warr-Cook-Wall satisfaction scale (ranging from extremely dissatisfied to extremely satisfied) was used to assess job satisfaction.

**Results:** Community pharmacists experienced moderate satisfaction with their jobs. The mean satisfaction score for all pharmacists was 20.4 (SD 3.7). The lowest mean scores occurred for recognition (1.4; SD 0.7), public respect (1.8; SD 0.9), and pharmacy regulations (1.9; SD 0.9). Job satisfaction was significantly affected by pharmacist characteristics, including gender ( $p < 0.001$ ), age ( $p < 0.001$ ), degree level ( $p = 0.003$ ), years in practice ( $p < 0.001$ ), working patterns ( $p < 0.001$ ), and working hours ( $p < 0.001$ ). Regression analysis indicated pharmacist gender and age had the highest effect on job satisfaction, while, years in practice, working hours, and working pattern had the lowest effect.

**Conclusions:** Community pharmacists expressed moderate satisfaction with their jobs with satisfaction levels being affected by gender, age, years in practice, working patterns, and working hours. New strategies will require support for Iraqi pharmacists by the Ministry of Health and Syndicate of Iraqi Pharmacists before being included in extended pharmacy services.

### Keywords

Pharmacists; Job Satisfaction; Personal Satisfaction; Emotions; Pharmacies; Pharmaceutical Services; Regression Analysis; Cross-Sectional Studies; Iraq

## INTRODUCTION

Pharmacist job satisfaction has been perceived as an indicator of professionalism, which is crucial for providing safe and effective care. Pharmacists and other health professionals are subjected to heavy workloads and responsibilities that may affect their job orientation.<sup>1</sup> Job satisfaction among hospital pharmacists has been investigated extensively; yet little information is available regarding community pharmacists and their feelings towards their working lives.<sup>2,3</sup> To date, no information on this subject was available from Iraq.

Pharmacist job satisfaction is a subjective variable used to describe the psychological state of a pharmacist towards his job.<sup>4</sup> That is, it measures how pharmacists feel about their job, not what they do. Addressing feelings has meaning by transferring useful information about pharmacists' practice lives that should not be ignored. For

example, a pharmacist unconvinced of their work there is a risk of patient harm or death.<sup>5</sup> Pharmacists dissatisfaction with their working lives may lead to incorrectly filled prescriptions, negligence in detecting adverse drug reactions and poor patient contact.<sup>5,6</sup> Further, it may affect patient interaction with the pharmacist and the perception of pharmacy service promotion. In Iraq, societal attitudes towards community pharmacy services have been found to be rather weak.<sup>7</sup> A poor image of pharmacists and a low level of trust in them have also been reported in Lebanese society.<sup>8</sup> This may be due to pharmacist performance and pharmacist job satisfaction affecting patient interactions.

The literature on this scenario showed job satisfaction to be a product of internal and external effects including the internal effect of pharmacist performance, provided service quality, absenteeism, and intention to quit position.<sup>3,6</sup> External effects were characterised by the pharmacist's life outside the scope of work.<sup>9</sup> Particularly, the serious country conditions that have affected Iraqi pharmacists during substantial span of time. Iraq witnessed a remarkable development in its health system from the early 1950s through to the 1980s, becoming the most sophisticated system in the Middle East. Sadly, it declined dramatically due to three decades of conflict, starting with the Iraqi Iranian War in 1981 and continuing into the Gulf War in 1991 (which was accompanied by financial and trade embargos imposed by the United Nations Security Council) and the US-led invasion in 2003 to change Iraq's regime.

**Inas Rifaat IBRAHIM.** PhD. College of Pharmacy, Uruk University. Baghdad (Iraq). [phm.enas@yahoo.com](mailto:phm.enas@yahoo.com)

**Mohamed Izham B. Mohamed IBRAHIM.** PhD. Professor of Social & Administrative Pharmacy, Head of Research and Graduate Studies – Pharmacy, Department of Clinical Pharmacy and Practice, College of Pharmacy, Qatar University. Doha (Qatar). [mohamedizham@yahoo.com](mailto:mohamedizham@yahoo.com)

**Ibrahim A. MAJEED.** Assistant Professor in Clinical Pharmacy and Therapeutics. College of Pharmacy, Uruk University. Baghdad (Iraq). [ibrahemalbayati27@gmail.com](mailto:ibrahemalbayati27@gmail.com)

**Zahraa Falah ALKHAFAJE.** MSc. College of Pharmacy, Uruk University. Baghdad (Iraq). [zahraaalkhafaje@yahoo.com](mailto:zahraaalkhafaje@yahoo.com)



These critical environment and volatile conditions adversely affected Iraq's national infrastructure and weakened its health system which included its pharmacy profession. After US troops departed in 2011, Iraq adopted new plans to rebuild what was ruined by these wars, with the Ministry of Health (MoH) and the Syndicate of Iraqi Pharmacists (SIP) working together to improve access to health and pharmacy services. Hence, this study was designed to gather information from community pharmacists regarding their jobs, which may help in promoting extended pharmacy services and keeping pace with global pharmacy evolution. Our study aimed to assess pharmacist job satisfaction in a community setting; and determine the effects of pharmacist characteristics (e.g., gender, age, years of experience, degree(s) held, working patterns, working hours, and number of consumers per day) on job satisfaction.

## METHODS

### Study design and sample

A descriptive cross-sectional study was conducted among community pharmacists in Baghdad, Iraq, from May to August 2019. Simple random sampling was used to collect data from community pharmacists. Information about all registered community pharmacists (specifically name, address, and registration number information) was obtained from the Iraqi pharmacists' guide published by the SIP. Sample size was calculated using the total number of pharmacists in the city (29,419) and based on a 50% response distribution, a 95% confidence interval, and a 5% margin of error (<http://www.raosoft.com/samplesize.html>). The minimum sample size was 380, but we allowed for 500 pharmacists to account for refusals. Microsoft Excel was used to generate random numbers between 1 and 500 for pharmacists selected for the study. The following formula  $[=INT(29419) * RAND()+1]$  was used to generate the numbers, where the INT function eliminates the digits after the decimal, the total number of pharmacies (29,419) created the range to be covered, and +1 sets the lowest number in the range.

### Data collection process

Geographically, the Tigris River (which runs along the city of Baghdad) divides the city into two main parts: Karkh and Rusafa. Pharmacists from each side were categorised and assigned a number to appear in the list of randomisation processes. An equal number of community pharmacists was chosen from both sides of the city. The questionnaire was distributed to the selected pharmacists by the investigators. The latter approached the selected pharmacists in their own pharmacies and explained the aims of the study to obtain their approval for participation. After obtaining oral consent, a questionnaire was handed to the pharmacist that indicated their right to refuse to fill it out. On average, pharmacists completed the questionnaire within around ten minutes. After that, the completed questionnaires were collected for data entry.

### Study tools

A pretested and previously validated questionnaire was used to gather the information. It covered three main domains: 1) demographic characteristics (gender, age,

degree level, years in practice, working patterns (full time or part time), working hours, and number of consumers per day); 2) a Warr-Cook-Wall (WCW) satisfaction scale, which was used in previous studies to assess job satisfaction among pharmacists and other health professionals; and 3) pharmacist opinions about whether they would choose the pharmacy profession again.<sup>3,10,11</sup>

The WCW satisfaction scale consisted of ten structured items to evaluate different intrinsic and extrinsic dimensions. These items were working conditions, the freedom to choose methods; recognition, using abilities, variety in job, colleagues, pharmacy education, public respect, income, and pharmacy regulation. The scale was scored from 1 (extremely dissatisfied) to a maximum of 4 (extremely satisfied), making 40 the maximum total score for all items (i.e., the highest level of job satisfaction). Obtained total scores were categorised as either low (less than 19), moderate (20-29), or high (30-40).<sup>12</sup> Pharmacist opinions in section three were also reported on four-point Likert-scale from 1 (definitely disagree) to 4 (definitely agree). A pilot study was conducted among 30 community pharmacists to investigate the feasibility and testing of questionnaire's components. This small-scale study was conducted using the same method planned for the major study and its results are not included with the data presented in this paper.

### Data analysis

Data analyses were performed using SPSS, version 17.0 (SPSS Inc., Chicago IL, USA). Frequencies and percentages were presented for categorical variables, whereas means (SD) and ranges were computed for continuous variables. The reliability analysis of the job satisfaction scale was measured by Cronbach's alpha coefficient. A value of 0.87 was obtained for the total 10-item satisfaction scale, reflecting that the scale is a reliable tool for use among pharmacists. This value was similar to other findings from previous studies using the same scale.<sup>3,10</sup> An independent sample t-test was used to compare the means of total scores for pharmacists grouped by gender and working patterns. Analyses of variance was performed to detect significant differences among pharmacists grouped by age, years in practice, working hours, degree(s) held, and number of consumers per day. Standard multiple regression analysis was used to assess the effects of pharmacist characteristics (where gender, age, degree level, years in practice, working patterns, working hours, and number of consumers per day were the independent variables) on overall job satisfaction scores (the dependent variable). The significance level was set for all tests at  $p < 0.05$ .

### Ethical considerations

The protocol of this study was approved and accepted by Uruk University in Baghdad and SIP (Number 74633). A written consent letter was provided to participating pharmacists to obtain their agreement. All gathered information was kept confidential.

## RESULTS

A total of 436 community pharmacists completed and returned their questionnaires. The recorded response rate



**Table 1. Demographic profile of pharmacists (n=436)**

Characteristics	n (%)
Age groups in years	24-30 89 (20.4%)
	31-40 228 (52.3%)
	>40 119 (27.3%)
Degree	Bachelor 359 (82.3%)
	Diploma 31 (7.1%)
	Master 29 (6.7%)
	Doctor of Philosophy 17 (3.9%)
Years in practice	≤10 146 (33.5%)
	11-20 212 (48.6%)
	>20 78 (17.9%)
Working patterns	Part time 282 (64.7%)
	Full time 154 (35.3%)
Working hours	<5 194 (44.5%)
	6-7 115 (26.4%)
	>7 127 (29.1%)
Number of consumers per day	<26 69 (15.8%)
	26-50 181 (41.5%)
	>50 186 (42.7%)

was 87.2%. Gender breakdown indicated 52.8% male and 47.2% female respondents. The sample had a mean age of 36.7 years (SD 7.37), (range 24-60 years). The mean age of females was slightly higher (38.2; SD 8.3 years) than that of males (35.4; SD 6.2 years). Pharmacist characteristics of this study are presented in Table 1.

Table 2 represents the ten items that made up the WCW satisfaction scale of the survey. Overall, the mean final total score was 20.4 (SD 3.7) (range=13-30). For individual items, the highest mean (2.8; SD 0.8) was obtained from item number eight (income). The other high mean values were obtained from items freedom to choose methods (2.3; SD 0.7), using abilities (2.3; SD 0.7), variety in job (2.3; SD 0.6), working conditions (2.2+0.9), and pharmacy education (2.1; SD 0.9). However, items with the lowest mean score were pharmacy regulation (1.9; SD 0.9), public respect (1.8; SD 0.9), recognition (1.4; SD 0.7), and colleagues (1.2; SD0.6).

Analysis of pharmacist demographic characteristics in Table 3 showed that males were less satisfied with their jobs than females (mean= 18.7; SD 2.8), p< 0.001. Pharmacists of (24-30) year age group reported a significantly lower mean score of job satisfaction than the other age groups (mean= 16.5; SD 2.3; p< 0.001). Pharmacists with diploma degree level were the least satisfied with their job (mean=18.6; SD

**Table 3. Overall job satisfaction for all pharmacists with the characteristics of pharmacists (Total score ranges from 4 to 40)**

Characteristics	Mean (SD)	p-value
Gender	Male 18.7 (2.8)	<0.001*
	Female 22.3 (3.7)	
Age groups in years	24-30 16.5 (2.3)	< 0.001**
	31-40 20.1 (2.3)	
	>40 23.8 (3.5)	
Degree	Bachelor 20.5 (3.7)	0.003**
	Diploma 18.6 (3.7)	
	Master 19.4 (2.5)	
	Doctor of Philosophy 22.2 (3.8)	
Years in practice	<11 17.8 (2.6)	<0.001**
	11-20 20.4 (2.6)	
	>20 25.1 (3.2)	
Working patterns	Part time 19.4 (3.4)	<0.001*
	Full time 22.3 (3.3)	
Working hours	<6 19.7 (4.8)	<0.001**
	6-7 20.1 (3.1)	
	>7 21.5 (2.9)	
Number of consumers per day	<26 18.9 (1.6)	<0.001**
	26-50 20.0 (4.5)	
	>50 21.3 (3.7)	

\*Independent –samples t-test, P< 0.05  
\*\*One-way between groups ANOVA, P< 0.05

3.7; p=0.003) and pharmacists with fewer years of practice (<10) were less satisfied than those with more years of practice (mean=17.8; SD 2.6; p<0.001). Further differences were also found according to working patterns, such as part-time pharmacists being less satisfied than full-time ones (19.4; SD 3.4; p< 0.001). Interestingly, pharmacists who spent more hours working (>8) and who interacted with the highest number of consumers per day (>51) were the most satisfied with their jobs (mean=21.5; SD 2.9 and 21.3; SD 3.7, respectively; p< 0.001).

Pharmacist characteristics (gender, age, degree level, years in practice, working pattern, working hours, and number of consumers per day) were used to develop a multiple regression model and assess the independent impact of each characteristic on job satisfaction (the dependent variable). The model of job satisfaction explained 66% of the variance (R Square= 0.66, p< 0.001). The comparison of each independent variable detected that gender, age, years

**Table 2. Pharmacists responses on Warr-Cook-Wall satisfaction scale**

Items of the scale	Response n (%)				Mean (SD) <sup>a</sup>
	Extremely dissatisfied	Dissatisfied	Satisfied	Extremely satisfied	
Working conditions	22 (5.0%)	124 (28.4%)	165 (37.8%)	125 (28.7%)	2.2 (0.9)
The freedom to choose methods	22 (5.0%)	130 (29.8%)	253 (58.0%)	31 (7.1%)	2.3 (0.7)
Recognition	315 (72.2%)	90 (20.6%)	19 (4.4%)	12 (2.8%)	1.4 (0.7)
Using abilities	12 (2.8%)	128 (29.4%)	265 (60.8%)	31 (7.1%)	2.3 (0.7)
Variety in job	12 (2.8%)	128 (29.4%)	265 (60.8%)	31 (7.1%)	2.3 (0.6)
Colleagues in job	375 (86.0%)	27 (6.2%)	25 (5.7%)	9 (2.1%)	1.2 (0.6)
Public respect	183 (42.0%)	174 (39.9%)	46 (10.6%)	33 (7.6%)	1.8 (0.9)
Income	-	59 (13.5%)	242 (55.5%)	135 (31.0%)	2.8 (0.7)
Pharmacy education	34 (7.8%)	59 (13.5%)	237 (54.4%)	106 (24.3%)	2.1 (0.8)
Pharmacy regulations	137 (31.4%)	169 (38.8%)	103 (23.6%)	27 (6.2%)	1.9 (0.9)

<sup>a</sup> Score for each item ranges from 1 to 4



in practice, working patterns, and working hours made a significant unique contribution to the prediction model. The strongest contribution was made by pharmacist age ( $\beta=0.39$ ), followed by gender ( $\beta=0.33$ ), when the variance explained by all other variables in the model was controlled for. Beta values for years in practice, working hours, and working pattern were slightly lower ( $\beta=0.28$ ,  $\beta=0.250$ , and  $\beta=0.29$  respectively), indicating that they made less of a contribution when other variables were controlled in the model.

When asked whether they would choose the pharmacy profession again, 32.2% of pharmacists responded that they would definitely choose it again, 38.1% reported that they would choose it again, 22.5% said they would not choose it again, and 8.2% would definitely not choose it again.

## DISCUSSION

This study is the first from Iraq to provide important information about pharmacist job satisfaction. This is crucial, as it plays a key role in providing the best pharmacy services to society. This study found community pharmacists were moderately satisfied with their jobs, which was contrary to data obtained from developed countries that showed pharmacists were less satisfied and more often subjected to job turnover.<sup>1,13</sup> This can be explained by the analysis of individual items from the WCW satisfaction scale. Pharmacists were highly satisfied with their income, which was noted previously as playing a significant role in job satisfaction and turnover.<sup>14</sup> Within the context of the Middle East, Hallit and his colleagues found that community pharmacists in Lebanon were not satisfied with their financial situation due to reductions in sales, profits, and numbers of loyal customers.<sup>15</sup> There is no doubt that income promotes personal satisfaction with work. Furthermore, our pharmacists were also satisfied with their working conditions, freedom to choose methods, ability use, variety in jobs, and pharmacy education. This is in contrast to studies from developed countries that showed community pharmacists reporting less satisfaction on the same items.<sup>6,13</sup> Further investigations about this scenario are needed.

Findings from this study also showed that pharmacists were dissatisfied with their pharmacy regulations, public respect, recognition, and colleagues in practice. In the modern era of the community pharmacy, the traditional role of pharmacist has shifted its orientation from product to patient.<sup>16</sup> As a consequence, the professional activity of compounding has been replaced by patient care services. However, the reality of practice is far from an ideal vision of patient-oriented practice. Positive satisfaction of pharmacists with their jobs suggests that old pharmacy regulations must change to expand the scope of pharmacy services. For Iraq, a slight change to the pharmacy Act enacted in 1970 has been made since 1998. Moreover, increasing degree requirements and training will increase the impact of community pharmacists on health care value.

Job satisfaction in this study was influenced significantly by several factors (gender, age groups, degree(s) held, years in practice, working patterns, working hours, and number of consumers per day). Female pharmacists were more

satisfied with their jobs than male pharmacists, which reflects previous indications that females tend to show higher stability in pharmacy position than males.<sup>16</sup> Male pharmacists preferred to pursue more challenging pharmaceutical work such as being a medical representative.<sup>17</sup> Another finding revealed that older pharmacists had the highest relative level of job satisfaction. This mirrors findings from Hardigan and Carvajal who noted older pharmacists working in independent practice setting were more satisfied with their jobs than younger pharmacists.<sup>18</sup> This verifies another significant result indicating pharmacists with more practice years were more satisfied than their counterparts. Concerning pharmacist degree levels; it was noticed that pharmacists with Doctor of Philosophy were the most satisfied with their jobs. What stirs controversy here is that the number of pharmacists with bachelor degrees was much larger than the number with higher degrees. Therefore, further investigation is needed to confirm this effect. A high level of satisfaction was also noted for pharmacists with full-time working patterns and higher numbers of daily consumers visits. This indicates that increased time spent in practicing community pharmacy is related to the highest level of job satisfaction, which may be explained by increased opportunities to utilize skills and capabilities.<sup>17</sup>

In the regression model, the significant determinants of job satisfaction were gender, age, years in practice, working patterns, and working hours. It has been previously proposed that the demographic characteristics of pharmacists can be used to construct a model of job satisfaction.<sup>11</sup> The strongest predictions in this study were made by age and gender, and evidence obtained from the literature shows that pharmacist age is correlated positively with job satisfaction.<sup>11,19,20</sup> Given Lin *et al.*'s model, it was not surprising that gender made a significant prediction of the construct in this study, with female pharmacists experiencing the greatest satisfaction in pharmacy work.<sup>17</sup> Limited studies are available to explore the effect of other community pharmacist characteristics on job satisfaction, and most of the available evidence discussed aspects of job satisfaction among hospital pharmacists.

Interestingly, most community pharmacists in our study reported that they would choose the same profession again. Previous research conducted among Saudi Arabia community pharmacists revealed a contrary finding; however, the overall satisfaction of pharmacists was similar to that obtained in our study.<sup>1</sup> As confirmed in previous literature, satisfaction with the profession of pharmacy may have an impact on patient care and the safety of using medicines. Pharmacists who are more satisfied with their job are quite motivated to do a good job and present themselves positively with patients and colleagues in practice.<sup>21</sup>

## Limitations

Our study, like all conducted studies, has some limitations. First, it was conducted without any financial support, and all expenses (e.g., printing papers, transport, and editing service) were paid by the investigators. Second, the critical situation in Baghdad (where bombing occurs from time to time throughout the city) affected the data collection



process. A further limitation came from the use of regression analysis, and its assumption of a cause-and-effect relationship between variables may cause misleading results. In fact, such analysis requires enough data variation (both dependent and independent) rather than stepwise variation. Technically, our study estimated the relationship between independent variables and job satisfaction rather than the cause-and-effect relationship.

## CONCLUSIONS

This study has provided data on the current job satisfaction among community pharmacists in Baghdad, Iraq. They were found to be moderately satisfied with their jobs despite low satisfaction with recognition, public respect, and national pharmacy regulations. Several influencing factors were found to profile job satisfaction, including gender, age, years in practice, working patterns, and working hours. Findings from this study will enable the development of new strategies to improve the pharmacy profession in a community setting. Moreover, the study provides empirical evidence for the inclusion of other variables in future models of job satisfaction.

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## CONFLICT OF INTEREST

None to declare.

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## AUTHOR ROLES (CRediT)

Conceptualization: IRI, MIM, IAM.

Formal analysis: IRI, ZA.

Investigation: IRI, IAM, ZA.

Methodology: IRI, MIM, IAM.

Writing-original draft: IRI.

Writing-review & editing: IRI, MIM, IAM, ZA.

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