Occupational burnout and job satisfaction among community pharmacists

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ABSTRACT

Introduction: Community pharmacists (CPs) are the most accessible healthcare professionals in primary care due to pharmacies' open-door policy and convenience, resulting in high patient and prescription volumes, and numerous free-of-charge consultations. Therefore, they are at high risk for burnout.
Objectives: The primary objective of this study was to assess the levels of burnout among community pharmacists in Greece, marking the first investigation of its kind within the country. Additionally, this study aimed to explore potential correlations between demographic variables and other health-related factors with burnout scores.
Methods: This study used a quantitative cross-sectional design involving two validated questionnaires(the Greek version of Maslach (MBI) questionnaire and the SF-36 questionnaire). Prior to data collection, all the relevant documentation was approved by the Metropolitan College Research Ethics Committee and was adopted under the auspices of the Panhellenic Pharmaceutical Association. Random sampling was used. Data collection period was July to August 2022.
Results: A total of 368 responses were included in the analysis, with the majority being pharmacy-owners ($n = 292$, 79.3%). Notably, a significant proportion of respondents were female practitioners working within community pharmacy settings ($n = 230$, 62.5%). Analysis revealed that the sample exhibited low levels of personal achievement (M = 30.99, SD = 6.41), high levels of emotional exhaustion (M = 41.73, SD = 6.94), and moderate levels of depersonalization (M = 23.38, SD = 3.78), indicative of substantial occupational burnout. Furthermore, gender had a discernible impact on depersonalization, with women scoring higher than men ($t = -3.29$, $p < 0.01$). Pharmacists who identified medicine shortages as their primary challenge in daily practice reported lower emotional burnout and depersonalization, albeit with a diminished sense of accomplishment ($t = -2.62$, $p < 0.01$).
Conclusions: This study sheds light on burnout levels and health-related quality of life among community pharmacists in Greece.

1. Introduction

Occupational exhaustion is a widespread phenomenon, affecting individuals across various professions. The World Health Organization (WHO) has defined burnout as a syndrome "resulting from chronic workplace stress that has not been successfully managed" and that is not recognized as a medical illness.[1,2] More specifically, burnout is characterized by feelings of exhaustion, cynicism, and reduced professional efficacy. Community pharmacists play a vital role in safety and effectiveness of medications, continuity of supply during regular medication shortages, compounding of medicines, and counseling. Moreover, pharmacists are the first point of call for the public due to pharmacies' accessibility and convenience resulting in high patient and prescription volumes, and numerous free-of-charge consultations with their patients. Therefore, they are at high risk for burnout due to their demanding work environment and responsibilities, long working hours, and high levels of

stress.[3]

Several studies have investigated burnout among pharmacists in other countries. A study conducted in Qatar with a sample of 194 pharmacists utilizing the MBI toolkit and a modified version of the Astudillo and Mendinueta questionnaire, found that 19.7% of the participants working for the primary provider of secondary and tertiary healthcare experienced burnout.[4] Furthermore, another study conducted in the United States (US) showed that 74.9% of the participating community pharmacists experienced burnout in at least 1 of 3 subscales of the MBI HSS.[5] Moreover, a study conducted in the US among hospital clinical pharmacists found that 61.2% of the sample reported that they were experiencing burnout due to inadequate administrative and teaching time, uncertainty of healthcare reform, and feeling that contributions are underappreciated.[6] Furthermore, a cross sectional study in Turkey,[7] revealed that 71.3% of the participating community pharmacists experienced inefficacy or reduced personal accomplishment.

The COVID-19 pandemic expanded community pharmacists roles worldwide since pharmacists played an essential key role in the management of the spread of the disease.[7] A study conducted in Qatar used appropriate surveys to measure burnout, resilience, depression-anxiety, and stress among community pharmacists by correlating the results with COVID-19 pandemic. The study showed that community pharmacists experienced both moderate burnout and resilience. Interestingly, it concluded that fear of COVID-19 was a statistically significant and independent predictor for depression, anxiety and stress levels.[8] These findings highlighted the global nature of burnout among pharmacists and the need for further research in this area.

The number of community pharmacies per 100,000 people in Greece are 88.[9] Based on the number of pharmacies in Greece, it is obvious that community pharmacists play a vital role in providing healthcare services to the public. They are responsible for dispensing medications, counseling individuals/patients, treating minor ailments, and providing health education. Despite the critical role that community pharmacists play in the healthcare system, there is limited research on the prevalence of pharmacists' burnout in Greece.

Interestingly, to our knowledge, no studies have investigated burnout among community pharmacists in Greece, but there are several studies conducted, which evaluated the occupational exhaustion of other healthcare professionals.[10,11]

Due to the lack of published literature on occupational exhaustion in community pharmacists in Greece, this study aimed to assess the prevalence of burnout using the MBI questionnaire and to evaluate overall health status using the SF-36 questionnaire. The hypothesis was that community pharmacists in Greece would experience high levels of burnout and reduced overall health status due to the demanding nature of their work. The study also aimed to contribute to the understanding of occupational exhaustion of the community pharmacists in Greece and it intended to suggest interventions, which could reduce the burnout rates and improve the overall health status of this population.

2. Methods and materials

A quantitative cross-sectional study involving two validated surveys in the form of questionnaires was performed. The first was the Greek version of the Maslach (MBI) questionnaire, which is designed to evaluate occupational burnout.[12] The MBI[13] is used to measure burnout in a reliable, valid and easy way. It consists of 22 items, rated on a 7-point Likert scale, tapping on three dimensions: (a) Emotional Exhaustion (EE) ranging between 0 and 54 (where <20 = low, $21–30$ = medium and >31 = high), (b) Lack of Personal Achievements (PA) ranging between 0 and 48 (where >42 = low, low burnout, $41–36$ = medium, medium burnout, and <35 = high, high burnout) and (c) Depersonalization (D) ranging between 0 and 30 (where <5 = low, $6–10$ = medium and >11 = high). High values on the scales of EE and D and low scores on the PA scales indicate high occupational burnout. The value of each scale is obtained by adding the scores of the answers to questions

included in each scale.

The second survey used was the Greek translation of the Short Form Questionnaire-36 (SF-36).[14] The SF-36 includes 36 questions, which belong to eight measurement scales: vitality (V; 4 questions), physical functioning (PF; 10 questions), bodily pain (BP; 2 questions), general health perceptions (GHP; 5 questions), role limitations due to physical health (PRF; 4 questions), role limitations due to emotional health (ERF; 3 questions), social functioning (SRF; 2 questions), and emotional wellbeing (EWB; 5 questions). The scores of each category can range from 0 to 100, with higher scores indicating better health. Calculations of subscale scores were carried out according to the developers instructions.[15]

The battery also contained three questions exploring work burdens in everyday practice. Specifically, participants were asked to rank the negative impact of a set of work burdens (namely medicine shortage, managing expired products, client communication, price competition for non-pharmaceuticals, relations with neighboring pharmacists, employee relationships, changes to relevant legislation, and bureaucracy) from most to least impactful. Similarly, participants were asked to rank the impact of COVID-19-related services (i.e., vaccination appointments, self-test distribution, rapid-testing, or none). The third question asked participants to rate the possibility of changing professions in the next five years.

These three questions were developed by leveraging insights gained from in-depth discussions among a community pharmacists focus group. These discussions served as a valuable resource for identifying emerging trends, addressing real-world concerns, and exploring collective experiences and perspectives within the field of community pharmacy. By incorporating the diverse viewpoints and expertise shared among these pharmacists, the design of the questions aimed to capture and analyze the most relevant and up-to-date insights.

To ensure that the questionnaire captured effectively and with validity the intended information, a pilot study was conducted among a select group ($n = 5$) of opinion leaders within the community pharmacy setting. The primary aim of this pilot testing was to assess the understandability of the phrasing of the questions and identify any potential missing response options. This approach allowed for iterative refinement and optimization of the questionnaire prior to its implementation in the main study. Participants were invited to provide feedback on the clarity, relevance, and comprehensiveness of the questions. According to the feedback provided by the participants no adjustments were deemed necessary to enhance the overall clarity and content validity of the questionnaire.

Finally, six general socio-demographic questions such as gender, age, location, level of education, occupational role in the pharmacy and number of people working in the pharmacy were included.

Calls for participation were sent through researcher contact/email lists, community pharmacist exclusive social media forums, community pharmacy technicians exclusive social media forums and news outlets. Overall, 5000 possible participants were reached. Inclusion criteria in this study was that participants had to be working in a community pharmacy in Greece during the data collection period.

Prior to commencing the survey, participants were presented with an informed consent form, which outlined the purpose of the study, the voluntary nature of participation, confidentiality measures, and their rights as participants. Participants were required to provide explicit consent by acknowledging and agreeing to the terms outlined in the informed consent form before proceeding with the survey. This practice ensured ethical considerations were met, and participants' rights to privacy and voluntary participation were respected throughout the study. Data collection was conducted during July and August 2022 with 2 reminders at the end of each month.

2.1. Sampling and location

Convenience sampling was used. The sample size was calculated

using the Raosoft sample size calculator.[16] The minimum recommended sample size of the survey for the areas included in the study was 357 participants (sample size 5000, margin of error 5%,95% CI,).

2.2. Statistical analysis

All data were entered into the IBM Statistical Package for Social Sciences (SPSS) Version 27 for statistical analysis. Categorical variables are being described using absolute (n) and relative (%) frequencies. Continuous variables are being described using measures of central tendency, namely means (M), standard deviations (SD) and ranges. The relationship between burnout and health was tested using Pearson's correlation coefficient. Group comparisons were made using *t*-tests and categorical associations were tested using odds ratios.

The decision to divide the sample into age groups of under 40 and over 40 years old stems from the well-documented age-related decline in hormone production that has known implications for health, making it a crucial factor to consider when examining various health-related parameters in the study population.[17] Additionally, the stratification based on age serves to account for the diverse occupational experiences within the sample. Other studies about occupational burnout among health care professionals that use age of 40 as a transitional age limit offered specific data and perspectives on burnout levels among individuals under the age of 40, contributing valuable context to understanding burnout in different age cohorts.[18–21] By integrating these two considerations, this study aimed to disentangle the intertwined influences of hormonal changes and occupational experiences on the health parameters under investigation.

In both inferential analyses the division between pharmacists owners and pharmacy employees was made regardless of their educational differences and similarities (pharmacist vs pharmacy assistants), thus investigating if the different responsibilities of their role in the everyday workflow may have different impacts on their mental and overall health.

2.3. Ethics approval

Prior to data collection, the study's methodology, including all the relevant documentation, was approved by the Metropolitan College Research Ethics Committee (CREC, Protocol number: 2636) and was adopted under the auspices of the Panhellenic Pharmaceutical Association (PPA).

3. Results

In total, 461 replies were received of which 368 resulted in valid scores and were entered for analysis and 93 participants did not answer one or more questions of one or both surveys resulting in invalid scores that were unusable. Participants working in the community sector were mostly female pharmacists [*n* = 230 (62.5%) females vs *n* = 138 (37.5%) males]. Moreover, most of the sample belongs to the 31–40 years (*n* = 151, 41%) age group, with the 41–50 group age ranking second (*n* = 109, 29.8%). Overall, 83.6% (*n* = 307) of the participants were younger than 50 years old.

Almost all participants (*n* = 365, 96.5%) had a university degree and most of them (*n* = 292, 79.3%) were community pharmacy owners with only 15.2% being a pharmacist employee. The percentage of pharmacy technicians who participated in this study was very low (*n* = 20, 5.4%). Most of the pharmacies represented in the sample (*n* = 310, 84.3%) employed up to 4 people, which is a typical representation of a small-size community pharmacy in Greece. The detailed demographics of the sample are displayed in Table 1.

3.1. Burnout and health-related quality of life

As shown in Table 2, mean scores of the MBI suggest medium to high burnout. Specifically, the sample yielded low levels of personal

Table 1
Participants' demographic data.

Demographics	Categories	Frequency (N)	Percentage (%)
Gender	Male	138	37.5
	Female	230	62.5
Age group	18–30	47	12.8
	31–40	151	41
	41–50	109	29.8
	51–60	41	11.1
	>60	20	5.4
Education	University	365	96.5
	Technical school	10	2.7
	Basic education #	3	0.8
Job position	Pharmacist owner	292	79.3
	Pharmacist employee	56	15.2
	Pharmacy technician	20	5.4
Number of people working in the community pharmacy	1	61	16.6
	2–4	249	67.7
	5–10	53	14.4
	>10	5	1.4
Total		**368**	**100**

* Graduate from Faculty of Pharmacy (5 years of studies) # Graduate from High School (12 years studies.

Table 2
Mean, standard deviation, minimum and maximum scores for all MBI and SF-36 subscales.

Scores	Minimum	Maximum	Mean	Std. Deviation
MBI				
PA	13	51	30.99	6.41
EE	18	58	41.73	6.94
D	9	35	23.38	3.78
SF-36				
PF	5	100	85.57	22.46
PRF	0	100	57.20	39.27
BP	0	90	30.82	23.49
GHP	5	90	5.85	14.63
V	0	90	45.94	11.87
SRF	0	100	51.29	12.62
ERF	0	100	53.35	44.64
EWB	16	84	53.67	11.64

PA = Personal Achievement, EE = Emotional Exhaustion, D = Depersonalization; V=Vitality; PF=Physical Functioning; BP=Bodily Pain; PRF=Physical Role Functioning; ERF = Emotional Role Functioning; SRF=Social Role Functioning; EWB = Emotional Well-being; GHP = General Health Perceptions; *p* < 0.0.05, **p* < 0.01.

achievement (M = 30.99, SD = 6.41), high levels of emotional exhaustion (M = 41.73, SD = 6.94) and moderate to high levels of depersonalization (M = 23.38, SD = 3.78). Regarding mental and physical health, the sample reported moderate scores for most subscales except for physical functioning, which was relatively high (M = 85.57, SD = 22.46), and bodily pains which was particularly low (M = 30.82, SD = 23.49).

Considering the MBI categorization (low, medium, high burnout), 94.3% of the participants scored high on emotional exhaustion, 99.7% exhibited high depersonalization towards service users, and 74.2% of the participants felt a strong lack of personal achievement (Fig. 1).

3.2. Burden of COVID-19 related pharmacy services

Participants responded that among the COVID-19 related services that community pharmacies performed during the pandemic, the distribution of free self-tests to the public had the most negative impact in
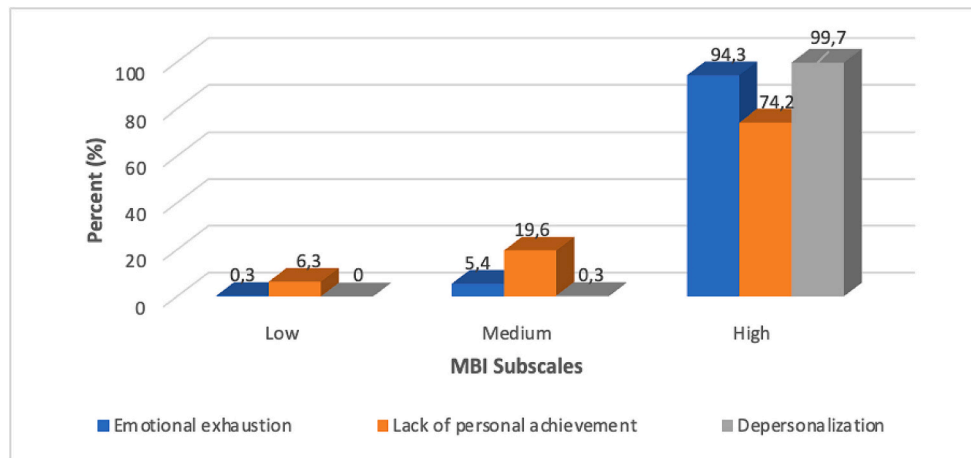
Fig. 1. Percentage of low, medium, and high MBI subscale scores.

their everyday work life (34%) with performing the required by the state rapid tests being a close second (29.9%) and the process of scheduling appointments for COVID-19 vaccination coming in the third place (4.9%). Nonetheless. 31.3% responded that no COVID -19 related service impacted their everyday work life in any way.

Further statistical analysis revealed that male pharmacists had 60% more probability to report that none of the COVID related services had impacted their everyday workflow negatively compared to women pharmacists (OR 1.600, 95%CI (1.022–2.514), $p = 0.039$). Pharmacists under the age of 40 had a reduced probability by 45.4% of reporting that none of the COVID related services impacted their everyday work life negatively compared to pharmacists aged over 40 (OR 0.546. 95% CI (0.350–0.852), $p = 0.007$). Pharmacists working as employees in a community pharmacy exhibited 73% less chance to report that none of the COVID related services posed extra burden on their everyday work life compared to the owners of the pharmacy (OR 0.270. 95% CI (0.133–0.547). $p < 0.001$). Interestingly, male pharmacy owners over the age of 40 were more likely not to report any of the COVID related services as an extra burden on their everyday work life compared to the rest of the participants (OR 2.19, 95% CI (1.27–3.80), $p = 0.004$).

3.3. Burden of other pharmacy services

When asked to rank the negative impact of a set of work burdens from most to least impactful, participants identified medicine shortages (63.9%) as having the most negative impact followed by communication with their clients (11.2%)(Table 3).

3.4. Possibility of career change

When asked to rate the possibility of career change in the next five years (rated on a 5-point likert scale where 1 = highly likely to 5 = highly unlikely),310 participants (84.2%) consider a change unlikely or

highly unlikely.

Further statistical analysis revealed that gender and whether the pharmacy is operated by one or more persons does not affect the possibility of a career change. However, younger people working in the pharmacy present more chances of thinking about a career change (OR 2.35, 95% CI (1.28–4.31), $p = 0.005$), compared to people over the age of 40. Also, employees are more likely to consider career change compared to owners of pharmacies (OR 6.15, 95% CI (3.365–11.235), $p < 0.001$). Finally, employees under the age of 40 have increased chance to consider a career change compared to other participants (OR 6.43. CI 95% (3.46–11.94), $p \leq 0.001$).

3.5. Inferential analyses

The relationship between burnout and physical and emotional health was tested using Pearson's correlation coefficient (r). As Table 4 shows, results yielded low to moderate significant correlations among most subscales. Specifically, EE was significantly correlated with all SF-36 subscales except SFR, which appeared generally unrelated to burnout. Similarly, PA was significantly correlated with all SF-26 subscales except V, SRF, and GHP. Finally, DP showed a low positive correlation with BP ($r = 0.23$, $p < 0.01$) and negative correlations with PF ($r = -0.15$, p < 0.01), PRF ($r = -0.19$, $p < 0.01$) and ERF ($r = -0.14$, $p < 0.01$).

In order to test if burnout and health related quality of life were affected by individual characteristics, group comparisons with MBI and SF-36 sub-scales as dependent variables were performed. Table 5 shows the SF-36 means, SDs and between group comparisons for gender, age (over or under 40 years old), professional role and type of on-the-job problem identified (supply shortage vs other). It was observed that men tended to report significantly better health than women except for vitality (V), social functioning (SRF) and emotional well-being (EWB) where no significant differences were found.

Similarly, group comparisons for the MBI scales (**Table 6**) showed an effect of gender on depersonalization with women scoring higher than men ($t = -3.29$, p < 0.01). Also, pharmacists reporting medicine shortages as their top burden in everyday practice reported lower emotional burnout and depersonalization but also a lower sense of accomplishment ($t = -2.62$, $p < 0.01$).

4. Discussion

The present study examined burnout levels among pharmacy staff (including pharmacy owners, pharmacy employees and technicians) in community pharmacies in Greece using the Maslach Burnout Inventory (MBI) questionnaire. It also assessed their overall health-related quality of life using the SF-36 questionnaire. The results revealed notable

Table 3
Participant ranking of most impactful burdens in their everyday practice.

Burdens	N	%
Medicine shortage	234	63.9
Communication with patients	41	11.2
Bureaucracy	39	10.7
Price competitions on non-pharmaceutical products	28	7.7
Work relationships	11	3.0
Changes to relevant legislation	5	1.4
No burdens	4	1.1
Relations with neighboring pharmacists	3	0.8
Product stock management	1	0.3
Total	**366**	**100.0**

Table 4

Pearson's correlation coefficients (r) Maslach Burnout Inventory and SF = 36 subscales.

Variable	SF-36 Scales							
Maslach Burnout Inventory Scales	V	PF	BP	PRF	ERF	SRF	EWB	GHP
Emotional Exhaustion (EE)	−0.15**	−0.26**	0.35**	−0.28**	−0,28**	−0.02	−0.24**	0.15**
Personal Accomplishment (PA)	−0.12	−0.27**	0.29**	−0.25**	−0.30**	−0.003	−0.26**	0.05
Depersonalization (DP)	−0.02	−0.15**	0.23**	−0.19**	−0.14**	0.005	−0.02	0.07

V=Vitality; PF=Physical Functioning; BP=Bodily Pain; PRF=Physical Role Functioning; ERF = Emotional Role Functioning; SRF=Social Role Functioning; EWB = Emotional well-being; GHP = General Health Perceptions; *$p < 0.05$, **$p < 0.01$.

Table 5

Mean (SD) and significant difference testing of SF-36 subscales for gender, age, role and problems reported.

Variable	PF	PRF	BP	GHP	V	SRF	ERB	EWB
Age								
<40 (n = 198)	85.81	50.88	32.37	50.83	45.75	50.69	46.96	52.58
	(21.94)	(39.05)	(23.34)	(14.29)	(12.13)	(12.19)	(45.30)	(12.02)
>40 (n = 170)	85.29	64.55	29	53.03	46.14	51.98	60.78	54.94
	(23.11)	(38.33)	(23.6)	(14.96)	(11.58)	(12.26)	(42.80)	(11.08)
t	0.219	−3.377**	1.375	−1.438	−0.313	−0.978	−2.991**	1.942
t	3.612**	2.855**	−4.181*	−2.558*	−1.038	−0.453	2.192*	−1.101
Gender								
Men (n = 198)	90.42	64.67	24.34	49.34	45.11	50.90	59.90	52.81
	(19.89)	(38.17)	(20.89)	(15.13)	(11.69)	(12.96)	(44.33)	(12.01)
Women (n = 230)	82.34	52.71	34.69	53.34	46.43	51.52	49.42	54.19
	(23.32)	(39.31)	(24.14)	(14.13)	(11.97)	(12.43)	(44.46)	(11.41)
t	0.219	−3.377**	1.375	−1.438	−0.313	−0.978	−2.991**	1.942
Position								
Pharmacist Owner (n = 292)	85.41	58.04	29.65	51.31	45.89	50.59	55.47	53.54
	(22.90)	(39.48)	(23.06)	(14.51)	(11.99)	(12.29)	(44.09)	(11.22)
Pharmacist Employee (n = 76)	86.18	53.94	35.26	53.88	46.11	53.94	45.17	54.15
	(20.79)	(38.52)	(24.73)	(15.02)	(11.44)	(13.57)	(49.09)	(13.20)
t	0.267	−0.811	1.859	1.362	0.149	2.069*	−1.798	0.406
Problems								
Shortages	86.047	58.86	29.14	51.11	45.81	51.28	58.68	54.47
(n-234)	(22.79)	(38.04)	(22.18)	(14.18)	(11.82)	(12.57)	(43.92)	(11.49)
Other	84.73	54.29	33.73	53.13	46.15	51.3	44.03	52.26
(n = 132)	(21.91)	(41.30)	(25.44)	(15.33)	(11.98)	(12.75)	(44.50)	(11.88)
t	0.537	1.076	−1.807	−1.278	−0.268	−0.017	3.066**	1.757

*$p < 0.05$. **$p < 0.01$.

Table 6

Mean (SD) and significant difference testing of MBI subscales for gender, age, role and problems reported.

Variable	MBI ACHIEVMENT	MBI EMOTIONAL	MBI DETACH
Gender			
Male	31.10(6.30)	40.89(6.83)	22.55(3.83)
Female	30.93(6.48)	42.23(6.97)	23.87(3.66)
	0.247 (p = 0.805)	−1.802 (p = 0.072)	−3.291 (p = 0.001)
Age			
<40	31.55 (6.66)	41.99 (7.05)	23.35 (3.88)
>40	30.34 (6.05)	41.42 (6.81)	23.41 (3.65)
	1.81 (p = 0.07)	0.787(p = 0.432)	−0.135(0.893)
Role			
Owner	31.08 (6.29)	41.93 (6.85)	23.3973(3.72)
Employee	30.63 (6.88)	40.94 (7.26)	23.3289(3.97)
	−0.554(p = 0.580)	−1.105(p = 0.270)	−0.140(p = 0.888)
Problems			
Shortages	30.33 (6.50)	40.91 (7.04)	23.0855(3.84)
Other	32.14 (6.092)	43.16 (6.53)	23.9030(3.59)
	−2.619(p = 0.009)	−3.029(p = 0.003)	−2.007(p = 0.045)

findings regarding burnout dimensions and various aspects of health-related quality of life.

It is worth mentioning that the context and the target population of a survey can influence response rates. For instance, surveys distributed during the COVID-19 pandemic experienced lower response rates compared to pre-pandemic surveys as a potential result of the increased workloads, stress, and disruptions in daily routines.[22] However, this association is specific to the unique circumstances surrounding the pandemic and may not apply to all survey contexts.

Regarding burnout as measured by the MBI questionnaire, the mean score for a sense of personal achievement was 30.99 (SD = 6.41), indicating a low level of personal accomplishment. Participants experienced high levels of emotional exhaustion with a mean score of 41.73 (SD = 6.94) and depersonalization with a mean score of 23.38 (SD = 3.78). The results revealed alarmingly high levels of burnout among community pharmacists. The MBI scores indicated that 99.73% of pharmacists had detachment scores above 11, 94.3% had emotion exhaustion scores >31, and 74.2% scored below 35 on the achievement scale. These scores indicate a significant prevalence of burnout symptoms among the surveyed community pharmacists. The relatively low score on the personal achievement sub-scale is not consistent, however with the responses to the question that explores the possibility of a career change in which the participants stated that there is little (40.2%) or no possibility (44%) of that happening. This might be identified as the quiet-quitting phenomenon, meaning a state in which workers limit their work effort to the basic requirements.[23,24] A study among health-care workers in Greece revealed that the prevalence of quiet quitting among nurse practitioners was significantly higher than doctors and the rest of the health care workers (67.4% vs 53.8% vs 40.3% respectively).[24] In this study, the level of quiet quitting was correlated to high levels of burnout, which might explain why community pharmacists with very high levels of burnout don't want to change careers.

Comparing these findings to studies conducted among community pharmacists and healthcare professionals globally, it is evident that the levels of emotional exhaustion and depersonalization reported by Greek community pharmacists are consistent with international trends.[7,25]

These results suggest that the demanding nature of the profession and work-related stress contribute to high levels of emotional exhaustion and depersonalization among community pharmacists, which aligns with the experiences of their counterparts in other countries. Pharmacists in our sample reported a rather low level of achievement from their everyday practice.

A similar electronic survey published in 2017 that was conducted in the US among community pharmacists utilizing the MBI inventory to measure the prevalence of burnout and identify risk factors presented similar low response rates (7.4%) and results, namely high emotional exhaustion and depersonalization and reduced sense of personal achievement.[4]

Research conducted among physicians, pharmacists and nurses in Serbia during the COVID-19 pandemic utilizing the MBI revealed that pharmacists presented similar scores in EE and PA categories with other health care professionals but exhibited greater depersonalization compared to them. This survey however does not clarify whether participants were community pharmacists or pharmacists working in other sectors.[26]

In a survey conducted in Ontario Canada, among hospital pharmacists utilizing the MBI inventory, a 61% burnout rate was reported which is comparable to the rate reported for physicians and nurses in Canada and the US. Furthermore, this study highlights as an important contributor to pharmacist's burnout the lack of appreciation by colleagues and management. Canadian pharmacy schools reported no burnout-prevention curricula but exhibited a strong interest in incorporating such material. The response rate in this study was also rather low (11%) which is consistent with other published articles on the matter.[27]

In a study investigating burnout and coping strategies among health system pharmacists, namely hospital pharmacists in Lebanon, data revealed medium burnout prevalence (67%). Older pharmacists were at bigger risk of burnout, which is a significant difference with this and other studies[5]. Researchers of the Lebanon study attribute this finding to low career satisfaction and the lack of available development opportunities.[28]

The annual joint workforce and wellbeing survey of 2023 from the Royal Pharmaceutical Association (RPS) and Pharmacist Support, the profession's independent charity in the United Kingdom (UK) also reported very low response rates (1.9%). The study utilized the Oldenburg Burnout Inventory (OBI) to measure burnout among pharmacists from different settings. The findings of the survey suggest that 86% of the responders were at high risk of burnout. Community pharmacists were less aware of the available occupational health and wellbeing support services compared to hospital pharmacists. The report suggested that working under increasing workload and the resulting impact on mental health and wellbeing is becoming normalized,which is a considerable concern[29] because other studies reveal[30,31] a partial overlap exists between burnout and depressive symptoms mainly in the connection between emotional exhaustion and reduced professional efficacy and depressive symptoms.

Although both community and hospital pharmacists suffer from burnout, available data suggest that community pharmacists exhibit greater degrees of burnout than hospital pharmacists. This may be attributed to the fact that hospital pharmacists work in a structured environment with more defined roles and responsibilities, more predictable schedules and fewer direct patient interactions compared to community pharmacists.

In terms of the health-related quality of life, the SF-36 questionnaire provided insights into various domains. The physical functioning mean score was 85.57 and the bodily pain mean score was 30.81, indicating a relatively high level of physical well-being among Greek community pharmacists. However, the mean scores for physical role functioning (57.20), general health (51.85), vitality (45.94), social functioning (51.29), emotional role functioning (53.35), and emotional well-being (53.67) highlighted areas of potential concern. Comparing these

findings to global studies. it is evident that community pharmacists in Greece face challenges in multiple domains of health-related quality of life.[32] The scores for physical role functioning and vitality indicate limitations and potential physical health issues. Additionally. the scores for general health. Social functioning. Emotional role functioning. and mental health suggest possible challenges in overall well-being and psychological aspects.

In accordance with other published literature[33] burnout was also correlated with health-related quality of life. All SF-36 subscales showed a low to moderate correlation at least with emotional exhaustion, except for social role functioning, which was unrelated to burnout possibly due to a heightened focus on and sense of the value of social connections, even if maintained remotely during the pandemic.

Regarding the impact of COVID-19 related services on their everyday practice, approximately a third of the sample (31.3%) reported that such services did not make their everyday practice more difficult. This study reveals that pharmacists who were male, over 40 years old and owners of pharmacies were more likely to adapt to new service demands due to the pandemic and tended to report less burnout. While this observation may be due to gender differences in the expression of burnout,[34] it is also consistent with the growing understanding among researchers that burnout and increased professional fulfilment can coexist among health care professionals. Mainly it is based on the sense of professional achievement, which is driven by motivators intrinsic to the individual such as a sense that the work being done is meaningful, yields a positive impact on others, and is intellectually stimulating through varied task assignments.[35–37]

Finally, this study found that medication shortages were not only identified as the main everyday stressor for community pharmacists but also influenced burnout, with those prioritizing shortage issues experiencing a lower sense of personal achievement and emotional exhaustion than those who did not but similar degree of depersonalization. Medication shortages is internationally one of the main problems that both community pharmacists and pharmacy staff deal with in their everyday practice, as documented by the Pharmaceutical Group of European Union (PGEU).[38]Therefore, no organizational interventions to mitigate the risk of occupational burnout would be completed without a strategy to overcome this problem. Solutions proposed by the PGEU include policies that ensure medication availability and putting the patients' needs first, ways to achieve professional competence, developing effective governance system, improving communication between all members of the medicine supply chain and stakeholders and compensation for the financial impact to community pharmacists.

These results emphasize the need for targeted interventions and support systems to address the burnout and health-related quality of life issues faced by community pharmacists in Greece. Implementing strategies such as workload management, fostering work-life balance and promoting mental health support programs could potentially alleviate emotional exhaustion and enhance overall well-being among community pharmacists.

Since there aren't specific interventions for community pharmacists identified in the literature search, it is deemed necessary to suggest evidence-based interventions applied to other healthcare professionals to reduce burnout, such as mindfulness-based practices. A systematic review[39] presents evidence that mindfulness practices effectively reduced job burnout in healthcare professionals. Another approach is to focus on organizational change. For example, managing workload and recognizing boundaries can provide opportunities that can help staff feel effective in their work.[40] Furthermore, organizational interventions include various solutions such as workloads or schedule rotation, stress management training programs, debriefing sessions and focus groups as well as ways to improve interactions between colleagues through personal training. Balint group training involves case centered discussions among healthcare professionals. The focus of the discussion is the story of a specific encounter and the emotions and attitudes aroused by the presentation. Evidence suggests that this approach may have beneficial

impact on levels of burnout on health care workers.[41,42] However, organizational interventions alone that ignore individual factors do not work in reducing burnout.[43]

It is important to note that this study presents some limitations. The sample was restricted to community pharmacists in Greece, mostly pharmacy owners, which may limit the generalizability of the findings to other populations associated with the community pharmacy setting. Additionally, the cross-sectional design prevents establishing causal relationships and long-term trends. Moreover, this study had a low response rate (7.4%), which might be influenced by various factors including burnout and limited time, lack of interest, survey length, or lack of perceived relevance.[40] Additionally, this study should be repeated periodically so trends related to burnout could be identified and more specific correlations between possible causes and their effect can be made.

However, further research is needed to investigate the potential links between burnout, time constraints, and survey participation taking into consideration specific occupational groups or targeted populations (e.g., community pharmacists). Moreover, qualitative studies, including semi-structured interviews and focus groups could provide better insights into individuals' motivations, barriers, and decision-making processes related to survey response rates.

5. Conclusion

In conclusion, this study sheds light on the burnout levels and health-related quality of life among community pharmacists in Greece following their experience in the post-COVID-19 era. People working in the community pharmacy setting exhibit high levels of occupational burnout, following the trend among other health care professionals, which needs to be further discussed as a severe issue in terms of professional wellbeing and efficacy.

CRediT authorship contribution statement

Ilias Katsogiannis: Writing – original draft, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Eirini Manara:** Writing – review & editing, Resources, Methodology, Conceptualization. **Aliki Peletidi:** Writing – review & editing, Methodology, Conceptualization. **Angeliki Bistaraki:** Methodology. **Theodoros Constantinides:** Writing – review & editing, Supervision. **Christos Kontogiorgis:** Writing – review & editing, Validation, Project administration, Methodology, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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