

Assessing job satisfaction and stress among pharmacists in Northern Ireland

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Abstract *Objective and Setting* The pharmacy profession in Northern Ireland (NI) is currently experiencing major changes in practice development. The aim of this study was to determine the levels of job satisfaction and stress in pharmacists in NI in the context of these changes. *Method* A questionnaire was adapted from one previously used in the United States (US). Following minor amendments and piloting, the survey was distributed by mail on two occasions (January/February 2007) to all registered community and hospital pharmacists in NI ($n = 1,965$). Data were entered into SPSS (version 15) and analysed using descriptive statistics, t -test and regression analysis. The significance level was set at $P < 0.05$. *Results* The overall response rate was 39% ($n = 766$). Of the potentially highest stress score of 165, overall mean scores were significantly higher for community than hospital pharmacists ($P < 0.05$). Both groups found interruptions, excessive workload, and inadequate staffing to be the most stressful aspects of their employment. Just over 30% ($n = 178$) of community pharmacists and half of all hospital pharmacists cited feeling often or frequently stressed because of imminent changes in contractual or organisational arrangements. Regression analysis indicated that sector of

work (community or hospital) appeared to account for differences in self-reported stress. *Conclusion* Any developments in professional practice need to be considered in the context of the well-being of the health professionals who implement, and are affected by, the changes. Unless stress in pharmacy is recognised and reduced, pharmacists and patients may be at risk.

Keywords Community pharmacist · Hospital pharmacist · Job-related stress · Job satisfaction · Northern Ireland

Impact of findings on practice

- Hospital and community pharmacists in Northern Ireland experience moderate levels of job-related stress. Stress scores were significantly higher for community pharmacists and this may affect their ability to practise safely and effectively.
- Regulators should consider the impact of the current major changes in pharmacy in Northern Ireland on stress and job satisfaction.
- Further research is required to delve deeper into the causes of job-related stress in pharmacy, its impact on practice and patients and how it may be alleviated.

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Introduction

Stress is prevalent in modern life, yet in spite of its frequent use, the word 'stress' is an ambiguous term [1]. Stress is the psychological and physical state that results when the resources of the individual are not sufficient to cope with

the demands and pressures of the situation [2]. Many emotions characterise stress, such as anger, anxiety, sadness, despair, depression and disappointment [3]. Job satisfaction can be defined as the affective orientation that an employee has towards his or her work [4].

Healthcare workers can suffer from work-related/occupational stress often resulting from high expectations coupled with insufficient time, skills and/or social support at work. This can lead to severe distress, burnout or physical illness, and to a decrease in quality of life and service provision. Stress and burnout may result in increased absenteeism and turnover [5]. Health professionals are particularly at risk from suffering from burnout [6] due to increasing workload, emotional response to contact with suffering or dying patients and organisational problems and conflicts [7, 8]. Pharmacists have a high level of responsibility and workload, and thus stress is increasing in pharmacy as with many other health professions. High stress levels in pharmacy are often the result of poor communication, unreasonable objectives and the promotion of “long hours” culture [9]. The Royal Pharmaceutical Society of Great Britain [10], states that the public places great trust in the knowledge, skills and professional judgement of pharmacists.

Previous work in the United States (US) nursing home setting found that pharmacists showed differing levels of stress and job satisfaction depending on their roles and responsibilities prior to the introduction of a new type of pharmacy service [11]. In a study of job-related stress experienced by hospital nurses and pharmacists in the US, it was reported that both pharmacists and nurses found interruptions, poor opportunities for advancement, inadequate staffing levels, excessive workload and inadequate pay, to be the most stressful situations in their place of work [12]. In a pharmacy workforce survey in the West Midlands (UK) many community pharmacists were frustrated regarding under-utilisation of their professional knowledge and their yearning for greater respect and recognition from doctors [13].

The pharmacy profession continues to experience major changes in practice development. In Northern Ireland (NI), a new community pharmacy contract is currently being negotiated. It is envisaged that there will be major changes for the organisation and delivery of services in NI community pharmacies. Its impact will be felt by both owners of community pharmacies (contractors) and employee pharmacists alike, but perhaps in different ways. Employees, for the most part, will be expected to deliver the new services on a day-to-day basis, while contractors will have to decide which services (as not all of them will be mandatory) can be delivered and which are most relevant to the patient population the pharmacy serves.

Changes in hospital pharmacy practice have also taken place recently, notably agenda for change (AfC). AfC is the new NHS pay system which applies to over one million staff, (including hospital pharmacists and Primary Care Pharmacists) [14]. Although the reduction in working hours for hospital pharmacists that comes with AfC is long overdue, it adds to the financial challenge for many departments [15].

Aim of the study

To date, job satisfaction and job stress has not been researched in the pharmacy profession in NI. The present study aimed to determine the levels of job satisfaction and job stress in NI pharmacists in the context of the imminent introduction of new community pharmacy contract and the AfC.

Method

A questionnaire was adapted from one that had been previously used in the US [9] and was tailored to reflect pharmacy practice within NI, with the inclusion of sections on the impact of the New Community Pharmacy Contract and the AfC on NI hospital pharmacy.

The questionnaire was made up of four sections. These included: (1) socio-demographic data (e.g. year of registration and gender); (2) 4 items relating to job satisfaction; (3) a subset of questions (33 items) from the Health Professions Stress Inventory (HPSI) developed by Wolfgang [16]; and (4) a section for free text responses on other aspects of job satisfaction and/or stress.

On the topic of satisfaction, respondents were asked whether they would choose the same profession again. Responses were selected from a four-point Likert scale where 1 = definitely no and 4 = definitely yes.

The stress element of the questionnaire was adapted from one developed in US. It used a modified version of the HPSI [16]. The original inventory consists of 30 statements in 5 domains: patient care responsibility (8 items), job conflicts (5 items), professional recognition (9 items), managing workload (7 items) and professional uncertainty (4 items). Respondents were asked to rate, using a 5 point Likert scale on how often they found each situation (33 in total) to be stressful, where 1 = ‘never stressed’ and 5 = ‘frequently stressed’, and 5 being the maximum score per item, (which would indicate the highest level of stress). An example question was: “how often do you feel stressed because you are interrupted by phone calls or others while performing job duties?”

The survey was piloted with 25 pharmacists who had experience of either community or hospital practice in NI. Ethical approval was not required for this study.

In January 2007, all pharmacists, (excluding pharmacists in their pre-registration training year or working in education, administration or prescribing support posts) in NI ($n = 1,965$) were invited to complete the pre-piloted, self-administered, postal questionnaire. The survey packets consisted of an explanatory cover letter, a copy of the survey, and a postage-paid return envelope. A second mailing was carried out 4 weeks later in February 2007. It was necessary to include all 1,965 pharmacists in this second mailing as returned questionnaires were completed anonymously. Initially, mean stress levels were compared between groups (defined by variables including sector of work) using independent samples *t*-test. Multiple linear regression was then used to compare the mean stress levels between groups whilst adjusting for other factors (such as gender and year of registration). In these models, the outcome used was a stress variable and the explanatory variables included gender, sector of work and year of registration as it was considered that these variables may influence stress independently. All statistical analysis was conducted in SPSS version 15 (SPSS Inc., Illinois, USA) and the significance level was set at $P < 0.05$. Qualitative data (from the section for free responses) were analysed for recurring themes using content analysis.

Results

Section 1: Socio-demographic profile

After two mailings, 766 replies (39%) were obtained; 14 questionnaires could not be delivered and were returned. A breakdown of the gender indicated that 36% were male and 64% female. Three quarters of all respondents ($n = 571$) worked in the community sector and 25% ($n = 193$) worked in the hospital sector. Within community practice, 58.5% ($n = 334$) were female and 41.5% ($n = 237$) were male; within the hospital sector 79% ($n = 152$) were female and 21% ($n = 41$) were male. Just over 65% (66%; $n = 469$) of pharmacists registered between 1990 and 2003. Only 5% of pharmacists registered earlier than 1969 ($n = 39$), with only 2% registering between 1950 and 1959 ($n = 15$).

A demographic profile of the study respondents is presented in Table 1. The data were compared with the overall demographic data of all registered pharmacists in NI (taken from the Northern Ireland Centre for Pharmacy Learning and Development database in 2007) in order to assess any non-response bias. It was found that the sample was

Table 1 Demographic profile of respondents

Characteristic	Number (%) (from response)	Number (%) (from NICPLD database)
Gender	($n = 764$)	($n = 1774$) ^a
Male	278 (36.4)	729 (41.1)
Female	486 (63.6)	1045 (58.9)
Year of registration	($n = 709$)	($n = 1757$)
<1950	1 (0.1)	12 (0.7)
1950–1959	14 (2.0)	88 (5.0)
1960–1969	24 (3.4)	52 (3.0)
1970–1979	54 (7.6)	108 (6.1)
1980–1989	147 (20.7)	292 (16.6)
1990–1999	238 (33.6)	524 (29.8)
>2000	231 (32.6)	681 (38.8)
	(Missing = 57)	(Missing = 17)
Area of practice	($n = 766$)	($n = 1664$)
Community	571 (75)	1235 (74.2)
Hospital	193 (25)	224 (13.5)
Other	^b	205 (12.3)
	(Missing = 2)	(Missing = 110)
Employment Status	($n = 749$)	($n = 686$)
Full-time	550 (73.4)	627 (91.4)
Part-time	199 (26.6)	41 (6.0)
Not practising	^b	18 (2.6)
	(Missing = 15)	(Missing = 1088)

^a This number differs from the number surveyed; the difference is due to retirees and deaths

^b Data not available

broadly similar to all NI pharmacists with regard to gender and area of practice.

Section 2: Job satisfaction

Fifty-seven percent of community pharmacists were satisfied with their current job ‘most of the time’. Only 5% said they were never or rarely satisfied with their current job. Sixty percent of hospital pharmacists were satisfied with their current job ‘most of the time’. Only 4% said they were never or rarely satisfied with their current job. When asked whether they would choose the same career again, 24% ($n = 136$) of community pharmacists responded that they would not choose the same profession again; 23% ($n = 130$) of community pharmacists said that they would choose the same profession again. In the hospital sector, 22% ($n = 42$) responded that they would not choose the same profession again and 19% ($n = 37$) responded that they definitely would choose the same profession again.

Table 2 Community and hospital scores for domains of health professions stress inventory

Respondents' scores							
Domain	No. of items	Possible range of scores	Community (n = 571) Mean (SD)	Hospital (n = 193) Mean (SD)	t	df	P-value
Patient care responsibility	8	0–40	21.52 (4.61)	20.26 (4.77)	3.23	757	0.001
Job conflicts	5	0–25	13.45 (3.29)	13.31 (3.14)	0.51	756	0.611
Professional recognition	9	0–45	24.42 (6.62)	22.86 (6.22)	2.86	756	0.004
Managing workload	7	0–35	22.85 (5.28)	21.64 (4.51)	3.08	379	0.002
Professional uncertainty	4	0–20	12.35 (3.55)	11.42 (3.02)	3.28	758	0.001
Total	33	0–165	94.66 (18.70)	89.63 (17.41)	3.25	745	0.001

Section 3: Job stress

Table 2 indicates that 33 items made up the stress element of survey with a maximum score per item = 5 (maximum total score of 165 indicates the highest level of stress). Overall mean \pm standard deviation (sd) stress scores were 94.66 ± 18.70 for community pharmacists and 89.63 ± 17.41 for hospital pharmacists ($P = 0.001$).

There was little evidence ($P = 0.146$) of a difference in the mean stress score in the community (employee, employee manager or locum) group ($n = 455$, 95.14 ± 18.50) compared with contractors ($n = 97$, 92.09 ± 19.80). However, there was evidence ($P = 0.016$) of a significant difference in the mean stress score in the lower graded hospital pharmacists (grade A–D) ($n = 141$, 91.38 ± 17.30) compared with those at more managerial grades (grade E–H) ($n = 44$, 84.14 ± 17.30), with lower grade pharmacists reporting more stress.

The top three job situations that community and hospital pharmacists perceived to be most stressful were: being interrupted by telephone calls or others while performing job duties (community pharmacist: 3.98 ± 0.95 ; hospital pharmacist: 3.66 ± 1.06); excessive/increased workloads (community pharmacist: 3.72 ± 0.98 ; hospital pharmacist: 3.64 ± 0.99); not having enough staff (community pharmacist: 3.54 ± 1.12 ; hospital pharmacist: 3.53 ± 1.10). Other situations contributing to stress for community pharmacists included keeping up with new developments to maintain professional competence and having too much work to do. Other situations contributing to stress for hospital pharmacists included having other health professionals determine the way they worked and having too much work to do.

Impact of contract and grading changes

Just over 30% (31.40%, $n = 178$) of community pharmacists cited feeling often or frequently stressed because of limited information regarding the New Community

Pharmacy Contract. Over half of hospital pharmacists (57.50%, $n = 111$) cited feeling often or frequently stressed because of the AfC and its potential impact.

Regression analysis

Univariate analysis was used to develop a multiple linear regression model. Gender, year of registration as a pharmacist and sector of work (community or hospital) were included in a multiple linear regression model to assess the independent impact of each variable upon self-reported stress (dependent variable).

There was evidence of an overall higher mean stress score in the females compared with the males (21.70 vs. 20.40, $P = 0.001$) which remained significant (adjusted $P = 0.001$) after adjustment for year of registration and sector of work using multiple linear regression (as outlined in the methods). Furthermore, after adjustment for these two variables, the mean patient care responsibility domain stress score was also higher in females compared to males ($P < 0.001$), but this was not found for the other domains (professional recognition, managing workload and professional uncertainty). There was evidence of a higher mean stress score in the community pharmacists compared with the hospital pharmacists in the domains patient care responsibility (21.52 vs. 20.26, $P = 0.001$), professional recognition (24.42 vs. 22.86, $P = 0.004$), managing workload (22.85 vs. 21.64, $P = 0.002$) and professional uncertainty (12.35 vs. 11.42, $p = 0.001$). All of these differences persisted after adjustment for year of registration and gender of respondent using multiple linear regression (Table 3).

Free text responses

A number of recurrent themes were reported by both groups on other aspects of job satisfaction and/or stress (Table 4).

Table 3 Summary of regression analysis on characteristics which affected stress scores

Domain			Mean (SD)	P-value*	Adjusted	
					Difference in mean (95% CI)	P-value**
Patient Care Responsibility	Gender	Male	20.38 (5.22)	0.001	1.25 (−1.99, −0.52)	0.001
		Female	21.68 (4.30)			
	Work	Community	21.52 (4.61)	0.001	1.62 (0.83, 2.42)	0.001
Sector	Hospital	20.26 (4.77)				
Professional Recognition	Gender	Male	23.92 (7.19)	0.730	0.06 (−0.97, 1.08)	0.913
		Female	24.09 (6.15)			
	Work	Community	24.42 (6.62)	0.004	1.85 (0.75, 2.95)	0.001
Sector	Hospital	22.86 (6.22)				
Managing Workload	Gender	Male	22.13 (5.57)	0.100	0.51 (−1.32, 0.30)	0.217
		Female	22.79 (4.83)			
	Work	Community	22.85 (5.28)	0.002	1.47 (0.59, 2.34)	0.001
Sector	Hospital	21.64 (4.51)				
Professional Uncertainty	Gender	Male	11.96 (3.99)	0.374	0.40 (−0.95, 0.15)	0.156
		Female	12.21 (3.10)			
	Work	Community	12.35 (3.55)	0.001	1.05 (0.46, 1.65)	0.001
Sector	Hospital	11.42 (3.02)				

* P-value from independent samples *t*-test

** P-value from model containing gender, work sector and year of registration

Table 4 Free text responses reported by responding pharmacists

Themes	Illustrative quotes
Working conditions	<i>“My main grievance regarding stress is that I rarely get an uninterrupted break for tea/lunch of more than a few minutes”</i>
Expectations	<i>“Enforced Continued Professional Development [CPD] is a major cause of stress and dissatisfaction with pharmacy career”</i>
Leadership	<i>“Pharmacy as a profession needs to have some leadership and decide upon and clearly define roles for the future”</i>
Perceptions of the profession	<i>“No job satisfaction primarily due to lack of professional respect from medical profession as well as pharmacy colleagues”</i>

Discussion

The aim of this study was to determine levels of job satisfaction and job stress in NI pharmacists in the context of major organisational change within the profession. An overall response rate of 39% was achieved and although the response was acceptable for self-administered postal studies this should be acknowledged as a limitation of the study, perhaps affecting the generalisability of the findings.

Community and hospital pharmacists reported moderate levels of job-related stress, although the former reported higher overall levels of job-related stress compared to hospital colleagues. These findings are consistent with a study of job satisfaction, sources of stress and psychological symptoms among New Zealand health professionals, whereby community pharmacists were significantly less satisfied of the groups surveyed and more often considered

leaving work as a result of stress [17]. Overall mean stress scores were lower for contractors than other types of community pharmacists (i.e. employee, employee manager or locum). Overall mean stress scores were significantly higher for Grade A–D (lower grade) hospital pharmacists than Grade E and above (higher grade, management positions). It has been previously shown that those in lower grade jobs tend to be more stressed because they have less control over job responsibilities. Low employment grade is associated with unfairness [18]. Fairness refers to the quality of treating people equally or in a way that is right or reasonable [19]. Treating people negatively (unfairly) can result in a series of negative or stress-related reactions that increase the risk of poor mental and physical health [20, 21].

Frequent interruptions by phone calls or others, too much work to do and lack of adequate staff to cover duties

were sources of stress for both groups. Few pharmacists reported stress because they were not being challenged by their work. These findings are similar to those reported by others pharmacists in other healthcare settings [11, 12, 22, 23].

There was a degree of uncertainty about pharmacists' professional future, particularly with regard to the New Community Pharmacy Contract and the AfC. Over half of all hospital pharmacists felt often or frequently stressed with regard to AfC. This may be because AfC is continuing to be implemented at a slow pace, with many staff still uncertain about how their job will be graded [15]. Just over 30% of community pharmacists cited feeling often or frequently stressed because of limited information regarding the New Community Pharmacy Contract which, at the time of writing, is still not negotiated. This finding is consistent with studies of job stress and satisfaction among general practitioners and dentists in the UK at times of major organisational changes [24, 25].

The regression model indicated that sector of work (i.e. community or hospital practice) appeared to account for most of the differences observed in self-reported stress. In a study of job satisfaction and stress among pharmacists and pharmacy technicians (using the HPSI), Lapane and Hughes [11] noted that stress may be less of a concern in the US long-term care setting (specifically nursing homes) than for community pharmacists, as these long-term care pharmacists do not encounter the public, per se.

A number of recurring themes were reported by both groups in the final free text section which took into account working conditions, expectations of the profession, leadership, and the perceptions of the profession. In a report on work related stress among senior doctors carried out by the British Medical Association (BMA) in June 2000, it was found that the main source of stress was workload; other sources of stress included organisational changes, poor management and insufficient resources to do the job and mistakes [26]. In a study of occupational stress of hospital pharmacists in South Africa, it was found that stressors that had high ratings included frequent interruptions, poorly motivated co-workers, high levels of workload and insufficient salaries [27].

According to Michie and Williams [28], levels of psychological ill-health may be higher in healthcare than non-healthcare workers. Ortmeier and Wolfgang [29] noted that although little is known about the link between stress and commitment to an individual's career in the pharmacy profession, there is evidence that a relationship may exist.

The results of this study may have been influenced by a number of methodological limitations. The original survey instrument had to be revised and tailored to reflect the current situation in NI pharmacy practice and the length of the questionnaire may have been a limiting factor.

Although the original instrument has good psychometric properties [30], analysis could not be performed confirming the psychometric properties of this study because of the modifications to the instrument. The problem of non-response is central to the use of mail surveys [31]. The study relied solely on a self-administered postal questionnaire. Fourteen questionnaires were returned to sender as the delivery address given was incorrect. The role of response bias must not be overlooked; the extent to which non-response bias plays a part in this study is unknown. The intrinsic motivation of the respondent is critical to who responded; those pharmacists who were particularly interested in the area of job-related stress or job satisfaction are most likely to have responded. However, the respondents were broadly similar in key characteristics when compared with all pharmacists registered in NI.

Conclusion

This study found that both community and hospital pharmacists reported moderate levels of job-related stress. At this present time major changes are being imposed on the pharmacy profession in NI and it is unclear if the profession is able to adequately deal with these changes. Any developments in professional practice need to be considered in the context of the well-being of the health professionals who implement, and are affected by, the changes. Further research is necessary to delve deeper into the causes of stress and the solutions which could be applied to ameliorating job-related stress in NI pharmacy.

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