Original Research

The relationships among work stress, strain and self-reported errors in UK community pharmacy

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Abstract

Background: Changes in the UK community pharmacy profession including new contractual frameworks, expansion of services, and increasing levels of workload have prompted concerns about rising levels of workplace stress and overload. This has implications for pharmacist health and well-being and the occurrence of errors that pose a risk to patient safety. Despite these concerns being voiced in the profession, few studies have explored work stress in the community pharmacy context.
Objectives: To investigate work-related stress among UK community pharmacists and to explore its relationships with pharmacists' psychological and physical well-being, and the occurrence of self-reported dispensing errors and detection of prescribing errors.
Method: A cross-sectional postal survey of a random sample of practicing community pharmacists (n = 903) used ASSET (A Shortened Stress Evaluation Tool) and questions relating to self-reported involvement in errors. Stress data were compared to general working population norms, and regressed on well-being and self-reported errors.
Results: Analysis of the data revealed that pharmacists reported significantly higher levels of workplace stressors than the general working population, with concerns about work-life balance, the nature of the job, and work relationships being the most influential on health and well-being. Despite this, pharmacists were not found to report worse health than the general working population. Self-reported error involvement was linked to both high dispensing volume and being troubled by perceived overload (dispensing errors), and resources and communication (detection of prescribing errors).
Conclusions: This study contributes to the literature by benchmarking community pharmacists' health and well-being, and investigating sources of stress using a quantitative approach. A further important contribution to the literature is the identification of a quantitative link between high workload and self-reported dispensing errors.
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Introduction

Increasing workloads and the work stress experienced by community pharmacists is a current concern across the US,[1] UK,[2] and elsewhere.[3] In common with other countries, the last two decades have seen considerable expansion of the services delivered by community pharmacists in the UK, particularly since the introduction of new contractual frameworks for community pharmacy in England and Wales in 2005, and in Scotland in 2006.[4] Under these frameworks, the services provided by community pharmacists have widened from the core task of medicine dispensing to include health care activities such as medicine use reviews, influenza vaccination, and Chlamydia screening. This role expansion has coincided with an increase in medicine dispensing load. For example, from 2000 to 2010, the number of prescription items dispensed annually in community pharmacies in England grew by 67.9% to 926.7 million.[5] These changes have led to concern about high workload in UK community pharmacy, particularly in light of evidence that workload growth is outstripping increases in registered pharmacist numbers,[6] which grow steadily at approximately two percent per year.[7] In turn, this has prompted debate about the potential impact of high workload on community pharmacists' well-being and their job performance, including the implications of the latter for the occurrence of errors that could compromise patient safety.[6,8]

It is generally accepted that the experience of work-related stress varies across different occupational sectors and job roles.[9] Research evidence regarding stress in community pharmacy in the UK is limited. Studies from the US have suggested that role overload and role conflict are the strongest predictors of work stress for pharmacists.[1] Similarly in a study of US pharmacists, Desselle reported that role conflict has a negative impact on organizational commitment.[10] Stress is also increasingly cited as a reason for job turnover.[11] A review of the UK literature by Hassell et al found that community pharmacists identified high workload and target-driven work cultures as sources of stress, but the authors observed that studies were few in number and often compromised by methodological shortcomings such as small sample sizes and reliance on participants' perceptions of their workload rather than use of more objective measures such as dispensing volume.[6] Further research is therefore required both to benchmark levels of occupational stress in UK community pharmacy and to investigate comprehensively aspects of pharmacists' work that might impact on their well-being.

The implications of occupational stress for employee well-being are widely acknowledged, but the relationship between work-related stress and job performance is less well established.[12] One strand of research has demonstrated associations between occupational stress and a range of poorer safety-related outcomes at work, including the occurrence of human error (for a review, see Clarke et al).[13] For example, there is evidence that the experience of work-related stress is associated with greater frequency of self-reported cognitive failure, which is a form of error involving problems with attention (e.g. selecting the wrong object when carrying out an action, or starting a task and getting distracted into doing something else).[14] In a similar vein, Grasha identified the impact of stress on information processing as a factor in error in community pharmacy.[15] Other research has investigated the association between work-related stress and violation of work procedures (i.e. intentional deviation from standard procedures and protocols), with evidence that workers experiencing stress-related exhaustion report bypassing safety-related procedures.[16] Differences in the psychological mechanisms underlying cognitive failure (i.e. attentional) and violation of procedures (i.e. motivational) indicate several pathways in the association between stress and error occurrence.

As noted earlier, the debate about changing workload in UK community pharmacy has included concern about its implications for the occurrence of errors that could affect patient safety. In addition, it is conceivable that high workload might compromise pharmacists' detection of their own or another's error before the patient takes possession of the dispensed item. Relatively little research has investigated human error in community pharmacy. A review of the international research literature identified four studies conducted in UK community pharmacy that estimated rates of 'prevented' dispensing incidents (defined as incidents detected before the patient had taken possession of the medication) as ranging from .22 to .48%.[17] Two of these studies also estimated the rate of 'unprevented' dispensing incidents (defined as incidents detected after the patient had taken possession of the medication); the range of these two estimates was wide: