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Understanding health beliefs and behaviour in workers with suspected occupational asthma

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Summary
Introduction: Long delays from symptom onset to the diagnosis of occupational asthma have been reported in the UK, Europe and Canada and workers are often reluctant to seek medical help or workplace solutions for their symptoms. Reducing this delay could improve workers' quality of life, and reduce the societal cost of occupational asthma. This study aimed to explore reasons behind such delays.
Methods: A purposive sample of 20 individuals diagnosed with, or under investigation for, occupational asthma (median age = 52; 70% male; 80% white British) undertook a single semi-structured interview. Interviews were transcribed verbatim and thematic analysis was undertaken in order to explore health beliefs and identify barriers to diagnosis.
Results: Four themes were identified: (1) workers' understanding of symptoms, (2) working relationships, (3) workers' course of action and (4) workers' negotiation with healthcare professionals. Understanding of symptoms varied between individuals, from a lack of insight into the onset, pattern and nature of symptoms, through to misunderstanding of what they represented, or ignorance of the existence of asthma as a disease entity. Workers described reluctance to discuss health issues with managers and peers, through fear of job loss and a perceived lack of ability to find a solution. The evolution of workers' understanding depended upon how actively they looked to define symptoms or seek a solution. Proactive workers were motivated to seek authoritative help and negotiate inadequate healthcare encounters with GPs.

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Conclusion: Understanding workers' health beliefs will enable policy makers and clinicians to develop better workplace interventions that may aid diagnosis and reduce delay in identifying occupational asthma.

Introduction

Occupational asthma is a disease characterized by variable airflow limitation and/or hyper-responsiveness, and caused by inhalation of an agent in the workplace [1]. Most cases of occupational asthma have an allergic mechanism, where there is sensitization to an agent after a latent period of exposure [2]. In western industrialized populations occupational asthma is the most frequently reported occupational respiratory disorder [3], and in the UK represents 1 in 6 cases of new-onset adult asthma [4]. Occupational asthma costs the UK £1.1 billion each decade [5]. This cost is to some extent avoidable, since individuals with a short latency between symptom onset and diagnosis or removal from exposure to a sensitizing agent, have a better prognosis when considering lung function and quality of life [4]. However, in cohort studies from the UK and from Canada, mean delays of 3—4 years between symptom onset and diagnosis or referral to a specialist, have been identified [6—8].

One fundamental reason for the delay in diagnosis of occupational asthma is a reluctance to report asthma symptoms by the worker [8]. Fear of losing work time, income or employment, and a lack of awareness of respiratory hazards at work have been cited as potential reasons for this [7—10]. In addition, lay perceptions of health vary according to patients' immediate cultural and social circumstances [11]. Such lay health beliefs may be particular to workers with occupational asthma, a group that comprises predominantly, but not exclusively, skilled and unskilled manual workers. Qualitative research was considered particularly important, since there has been no in depth study of health beliefs in workers with occupational asthma. Therefore, the specific aim of this study was to explore the health beliefs of workers with occupational asthma symptoms and establish a theoretical framework for understanding workers' beliefs and behaviour.

Methods

The consolidated criteria for reporting qualitative research (COREQ) [12] were followed for structure and reporting of the methods section.

Study design

An inductive, phenomenological qualitative methodology was selected as the most appropriate, given the study aims. Data were generated through semi-structured interviews.

Setting

Workers were recruited from the Heart of England NHS Foundation Trust Occupational Lung Disease Unit, a tertiary referral unit based at the Birmingham Chest Clinic. Within this unit 3 occupational lung disease specialist physicians (including the primary author GW) have clinical responsibility for 50—70 new outpatient referrals per annum with suspected occupational asthma. New referrals are taken from primary care, secondary care and occupational health services throughout the West Midlands, UK.

Eligibility criteria

The eligible sample population included any adult of working age who had received a diagnosis of, or was undergoing confirmatory investigations for, occupational asthma. Workers whose first language was not English were eligible with a translator present.

Sample selection

Purposive sampling was undertaken (a non-probability technique where the sample is selected based on prior knowledge of a population and the purpose of the study [13]); the sample included male and female workers of any working-age and ethnicity, with a variety of occupations, based on common exposures associated with occupational asthma [14,15].

Participant recruitment

Workers meeting the eligibility criteria for the study were approached directly by their attending clinician and referred to the primary author for recruitment and to provide written informed consent. There were no monetary incentives. The consent process and interviews were undertaken at the same clinic visit. Only one invited worker declined to participate, as he needed to leave quickly following his clinic appointment.

Data collection

Each participant underwent one face-to-face semi-structured interview with the primary author lasting between 10 and 30 min (the majority of interviews lasted 15—20 min); all interviews took place in a dedicated clinic room at the unit. A recording of each interview was made using a portable digital audio recorder, and field notes were taken during each interview to document any pertinent non-verbal responses. The initial questions confirmed basic