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Pharmacy student decision making in over-the-counter medicine supply: A critical incident study

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ABSTRACT

Background: Various factors influence decision making in over-the-counter (OTC) medicine consultations, yet limited studies have focused, in-depth, on the thought process of pharmacy staff. This includes pharmacy students as pharmacists-in-training.

Aim: To explore the factors that influence pharmacy students' decisions in relation to OTC consultations and choice of OTC medicine/s.

Methods: Semi-structured interviews using the critical incident technique were undertaken with ten pharmacy students in Australia, who also worked as part-time pharmacy staff.

Results: Nine key themes were identified to influence pharmacy student decision making in OTC consultations, including customer response, confidence and scope of practice. Product requests were reported as more challenging due to customer expectations and experiences in other pharmacies, states or countries. Although negative customer response influenced some students to supply medicines in contradiction of evidence, an overarching concern for safety meant that a medicine was only supplied if unlikely to cause harm. Students reported developing confidence in OTC decision making more from real-life practice than university training; greater confidence was identified for inquiries more frequently experienced in the pharmacy. Students perceived that customers had assumptions around support staff, and were happier to talk to students than assistants.

Conclusion: This study further identified that OTC decision making is a complex process for pharmacy students. Additional opportunities for experiential learning within this area are suggested, such as work-based placements or in-class activities such as role-plays with simulated patients.

1. Introduction

Community pharmacy is an accessible healthcare destination for the public to seek advice around management of minor ailments. Medicines are grouped into schedules to balance customer access and public safety and these can be broadly categorized as prescription or over-the-counter (OTC) medicines.¹ These schedules regulate where medicines can be sold and who can supply them.² For example, OTC medicines are classified as Unscheduled or General Sale, Pharmacy medicines, and Pharmacist Only or restricted medicines in Australia, New Zealand and Canada.^{3–5} The United Kingdom has General sale and Pharmacy medicines.⁶ Pharmacy medicines are generally restricted to pharmacy supply and Pharmacist Only medicines require the involvement of a pharmacist; this varies between countries, and Australian states.⁷ Pharmacy support staff, such as medicines counter assistants, pharmacy assistants, pharmacy technicians, interns and pharmacy students, are

generally the first staff members customers interact with upon entering a pharmacy. Consequently, pharmacy support staff handle the majority of OTC consultations,⁸ and have identified themselves as healthcare advisors.⁹

Overall, various factors influence OTC consultations, including staff knowledge and confidence, customer responses and expectations, the pharmacy environment, consumer-related clinical factors, evidence and/or professional protocols and scheduling rules. These factors are discussed in further detail below. For example, differences in knowledge between support staff and pharmacists may affect the outcome of an OTC consultation, i.e. medicine supply or referral.¹⁰ Discourse analysis of interactions between pharmacy staff and customers highlighted that the hierarchical relationship between Welsh support staff and pharmacists affected the overall outcome of an OTC consultation.¹⁰ When pharmacy interns lacked self-confidence, they sought the advice from, or mirrored the actions of, their preceptor.¹¹

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The outcome of OTC consultations is also influenced by customer interest and commitment to interacting with pharmacy staff.⁹ This includes open (elaborative) or closed (one word) customer responses to staff enquiries,^{9,12,13} with open responses supporting decision making and appropriate OTC supply by support staff.¹² Conversely, customer resistance to answering questions challenged OTC decision making;¹² a cold, detached customer manner affected pharmacy staff consultations.⁹ Hibbert et al. reported challenging responses from customers who had experience of their minor ailment and were focused on buying a product rather than seeking a professional service.¹² Such resistance provides limited scope for staff to tailor treatment to the individual or address any associated risks. As suggested by Banks et al., risk assessment, i.e. to ensure the safe and appropriate choice of medicine/s, can be affected when customers are not comfortable answering personal questions.⁹ Cooper reported that negative customer response came across as aggression when pharmacy assistants refused product supply.¹⁴ Several assumptions have been made by support staff in relation to customers they suspected to abuse medicines, including requests for a specific medicine, e.g. codeine-containing analgesics, or frequent purchasers of such medicines.¹⁴

Research has suggested that customer response can be affected by their own expectations.¹² Pharmacists believed that customer expectations were more influential in OTC decision making than utilising an evidence-based approach, particularly when there was customer pressure to supply.¹⁵ A similar situation has been observed with doctors and antibiotic prescribing.¹⁶ Banks et al. observed that most customer consultations involved a specific product request and suggested these were more difficult because pharmacy support staff need to establish safety and appropriateness, which the customer could disregard.⁹ However, researchers were required to observe multiple people and other findings may not have been identified.⁹ Furthermore, the busyness of the pharmacy environment may have affected the quality of consultations, protocol adherence and staff decision making.⁹ Time constraints in the pharmacy have been proposed by researchers as a barrier to applying evidence-based practice,¹⁵ professional protocols or asking questions.¹⁷

Risk assessment and clinical factors also feature in OTC decision making. Studies carried out in Northern Ireland found that establishing safety was the main focus of newly registered pharmacists before meeting patient expectations.^{11,15} Hanna and Hughes found that a customer's age, medical conditions or current medicines were considered prior to OTC supply, and that sometimes customer expectation superseded evidence.¹⁵ The majority of participants referred back to university teaching on the effectiveness of OTC medicines as an influential factor,¹⁵ and as long as the medicine caused no harm, this justified sale when evidence was limited. This was different from views in another study in Northern Ireland; trainees reported university teaching as irrelevant, redundant and disconnected compared to real life practice, which may be why an evidence-based approach was not consistently implemented.¹¹

Limitations of protocols have been highlighted in the context of the complexity of the OTC consultation.¹⁸ Further, scheduling rules or requirements for sale have been proposed as acting as a barrier to appropriate OTC consultation and supply.¹⁹ In Australia, real time online recording systems were introduced as additional practice tools to support staff OTC decisions with requests for pseudoephedrine²⁰ and Pharmacist Only codeine-containing analgesics,²¹ thereby tackling misuse. Voluntary reporting and variable implementation between pharmacies have been attributed as factors influencing the success of these professional practice tools.^{22,23}

Although comparisons have been made between pharmacists and support staff in OTC decision making, literature solely focused on pharmacy students is more limited. Furthermore, studies have generally reported on student views of OTC evidence-based practice,^{11,15} how OTC interactions occur using linguistic or discourse analysis^{10,13} and mystery shopper observations of behaviour.^{24,25} There has been limited

attention to the *thought process* for specific decisions in OTC consultations. This study aims to identify how factors affect OTC decision making by pharmacy students, and to explore the factors which influence the choice of OTC medicine supplied.

2. Methods

Semi-structured interviews were chosen to gather in-depth information on pharmacy student views and self-reported behaviour in relation to OTC consultations and associated decisions.²⁶ The critical incident technique (CIT) has been used previously to explore factors which influence decision making.²⁷ Flanagan stated: '*The critical incident technique consists of a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles.*'²⁷ Dunn and Hamilton stated that the CIT provides details of where professionals see their activities as being important, and guidelines which can be used as the foundation in constructing an educational program designed to maintain and improve professional standards.²⁸ The CIT ensured data was collected around the outcome of the OTC consultation and analysed systematically.

Critical incident data analysis allows data to be summarized and described in an efficient manner so it can be used for practical purposes.²⁷ Participant stories of OTC experiences were identified as critical incidents if they related to the interview questions, to OTC medicines and involved a customer interaction. Interactions involving prescription medicine, or other medicines available for customer self-selection, such as complementary medicines or wound care products were excluded. When information was full, clear and detailed it was seen as an accurate retrospective report; general, vague or less specific reports were less likely to be useful since the recounted incident may not be well remembered and hence possibly incorrect.²⁷ For an incident report to be effective and useful, it must have contained the following information: i) a description of the situation which led to the incident; ii) actions or behaviours of the person in the incident; iii) results or outcomes of the behavioural actions.²⁹

2.1. Recruitment

Current pharmacy students who had ever worked, or were working, in a community pharmacy were eligible to participate. The exclusion criteria included qualified international pharmacists or students currently taught by members of the research team. A purposive sample of pharmacy students throughout Australia were invited to participate via social media or student organizations; Griffith University pharmacy students were also invited by poster advertisements and in-class announcements.

Flanagan emphasized that the sample size for a CIT study is determined by the number of critical incidents observed or reported and adequate coverage of the activity being studied, rather than participant numbers.²⁷ For this study, when similar results were being heard and no new findings were found, recruitment was stopped due to data saturation, i.e. there was adequate coverage of decision making by support staff.

The interview guide was informed by a literature review,^{10–15,30–33} including studies which used the CIT.^{34–36} Three pilot interviews were conducted; minor amendments were made to the interview guide with the final form consisting of nine questions (Table 1). University ethics approval was obtained (GU Ref No: 2017/190).

Semi-structured interviews were carried out in March and April 2017 by one researcher (TT), who received training on interview techniques, and email debriefs provided to the research team. Interviews were audio recorded, and the interviewer (TT) transcribed the majority of transcripts verbatim which were quality checked by one of two researchers (FK or SM). Minimal changes were made, for example, confirmation of Australian medicine names. Participant

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