

Cormican M¹, Burnett K¹, Gormley C², Miller R^{1,2}

1. School of Pharmacy & Pharmaceutical Sciences, Faculty of Life & Health Sciences, Ulster University, Cromore Road, Coleraine
2. Pharmacy Department, Altnagelvin Area Hospital, Glenshane Road, Londonderry

Introduction

The inappropriate prescribing of antimicrobial agents and the resulting development of antimicrobial resistance is now well documented as a global issue¹. The World Health Organization have long established the need for guidelines to be introduced in regards to antimicrobial prescribing on a global scale². However, upon implementation adherence to these guidelines has been found to be poor^{3,4}. Recent studies have shown a link between being a junior doctor and knowingly not adhering to guidelines⁵. Therefore, further research should be conducted into the attitudes, experiences and thoughts of junior doctors in relation to the antimicrobial prescribing guidelines. Data gathered as part of this study could be used to identify areas through which adherence could be improved.



WHO Global Strategy for Containment of Antimicrobial Resistance

Aim & Objectives

The overall aim of this study was to explore the reasons why junior doctors may not follow antimicrobial guidelines.

Governing Hypothesis

Junior doctors will follow local antimicrobial guidelines when prescribing antimicrobial agents in secondary care.

Objective 1

To develop a focus group transcript comprising of open questions, with the aim of gathering qualitative data relating to the attitudes, thoughts, experiences and behaviours of junior doctors in relation to their role as key antimicrobial prescribers.

Objective 2

Using the themes identified in objective 1, to develop a questionnaire to gather both quantitative and qualitative data in regards to the attitudes, thoughts, experiences and behaviours of junior doctors in relation to their role as key antimicrobial prescribers.

Objective 3

To analyse the returned completed questionnaires so as to obtain information which could potentially be used to assist with improving adherence to antimicrobial prescribing guidelines by junior doctors in Northern Ireland and throughout the rest of the UK.

Methods

This study involved the use of a focus group and self-administered questionnaires to explore and evaluate the attitudes, experiences and thoughts of junior doctors in relation to antimicrobial prescribing guidelines.

Focus Group

Participants were identified and recruited by the lead antimicrobial pharmacist. Those who took part did so on a voluntary basis. Broad open questions and topics covering the attitudes, thoughts, experiences and behaviours of junior doctors in relation to antimicrobial prescribing were prepared. These questions were used to develop a discussion amongst the junior doctors regarding their experiences as key prescribers of antimicrobials. An audio recording was made and transcribed. The transcribed data was thematically analysed with the identified themes then used to inform a questionnaire aimed at gaining further insight into the mindset of junior doctors and their role as key antimicrobial prescribers in secondary care.



Questionnaire

The questionnaire was designed using Survey Monkey®. A link was sent out by email, via a contact within the Western Health and Social Care Trust (WHSCT), to a total of 220 junior doctors. Gathered data were analysed using SPSS® Version 22 and Microsoft Excel®.



Results

Focus Group

Six junior doctors took part in the focus group which was facilitated by two co-investigators (CG and RM). Themes that emerged from analysis of the transcribed data are shown in figure 1.

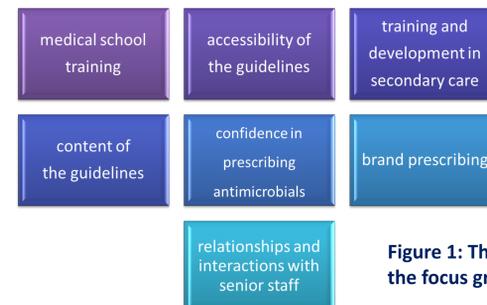


Figure 1: Themes identified during the focus group with junior doctors

Questionnaire

Thirty-four questionnaires were returned for analysis, giving a response rate of 15%. Figure 2 depicts the responses given by participants when asked questions relating to their knowledge, familiarity and access to the trust's antimicrobial prescribing guidelines.

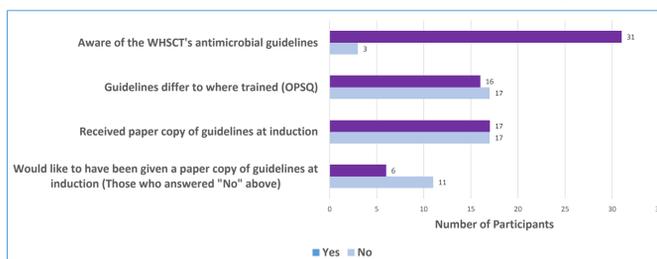


Figure 2: Range of answers in relation to questions relating to the WHSCT's antimicrobial prescribing guidelines

Key findings from the questionnaire analysis included;

- 60% of participants frequently or occasionally prescribed antimicrobials outside of the guidelines.
- The need for refresher courses, improved feedback and stewardship in relation to antimicrobial prescribing, in connection with the guidelines.
- The majority of junior doctors (73%) used the guidelines as their main resource in relation to antimicrobial prescribing.
- In the context of antimicrobial prescribing, senior doctors have a large influence on the junior doctor's decision-making process.
- In relation to the antimicrobial decision-making processes, junior doctors frequently feel caught in the middle of conflicts between their superiors.

Discussion

The findings of this study have disproved the initial hypothesis that junior doctors will adhere to local guidelines when prescribing antimicrobial agents in secondary care. The majority of participants used guidelines as their primary resource in relation to antimicrobial prescribing. A finding which was in contrast with a similar study⁶. Junior doctors often felt 'caught' between the conflicting opinions of different superiors, leaving them with a certain degree of uncertainty as to which senior's advice to follow, also found in a similar study⁷.

Conclusion

This study has added to an area which to date, has not been greatly explored. Introduction of refresher courses relating to antimicrobials and antimicrobial prescribing, as well as an improvement on the feedback given on antimicrobial prescribing in secondary care are ways in which adherence to guidelines maybe improved. Further exploration using a larger sample size across multiple healthcare trusts would be beneficial to further inform this area of prescribing.

References

1. Charani, E., Cooke, J. & Holmes, A., 2010. Antibiotic stewardship programmes-what's missing? *Journal of Antimicrobial Chemotherapy*, 65(11), pp.2275-2277.
2. World Health Organization, 2001. *WHO Global Strategy for Containment of Antimicrobial Resistance*. Geneva. http://www.who.int/drugresistance/WHO_Global_Strategy_English.pdf (Last accessed 19th Nov 2017)
3. Van de Beek, D., de Gans, J., Spanjaard, L., Vermeulen, M. and Dankert, J. 2002. Antibiotic guidelines and antibiotic use in adult bacterial meningitis in The Netherlands. *The Journal of Antimicrobial Chemotherapy*, 49(4), pp.661-666.
4. McQuirk, D., Hitch, G., Molai, S., Khan, I and Ramsay, J., 2010. A clinical audit on the use of antimicrobials in respiratory patients at the Luton and Dunstable Hospital NHS Foundation Trust (LDH). *International Journal of Pharmacy Practice*, 18(s2), pp.35-36
5. Burnett, K., McElroy, S., Morrissey, R. and Friel, A. 2012. An investigation of prescriber perceptions on the benefits of, and barriers to, the successful implementation of antimicrobial prescribing guidelines in secondary care. *International Journal of Pharmacy Practice*, pp.13.
6. Ali, M.H., Kalima, P. & Maxwell, S.R.J., 2006. Failure to implement hospital antimicrobial prescribing guidelines: A comparison of two UK academic centres. *Journal of Antimicrobial Chemotherapy*, 57(5), pp.959-962.
7. Mattick, K., Kelly, N. & Rees, C., 2014. A window into the lives of junior doctors: Narrative interviews exploring antimicrobial prescribing experiences. *Journal of Antimicrobial Chemotherapy*, 69(8), pp.2274-2283.