The barriers and facilitators to optimal antimicrobial prescribing: a qualitative study

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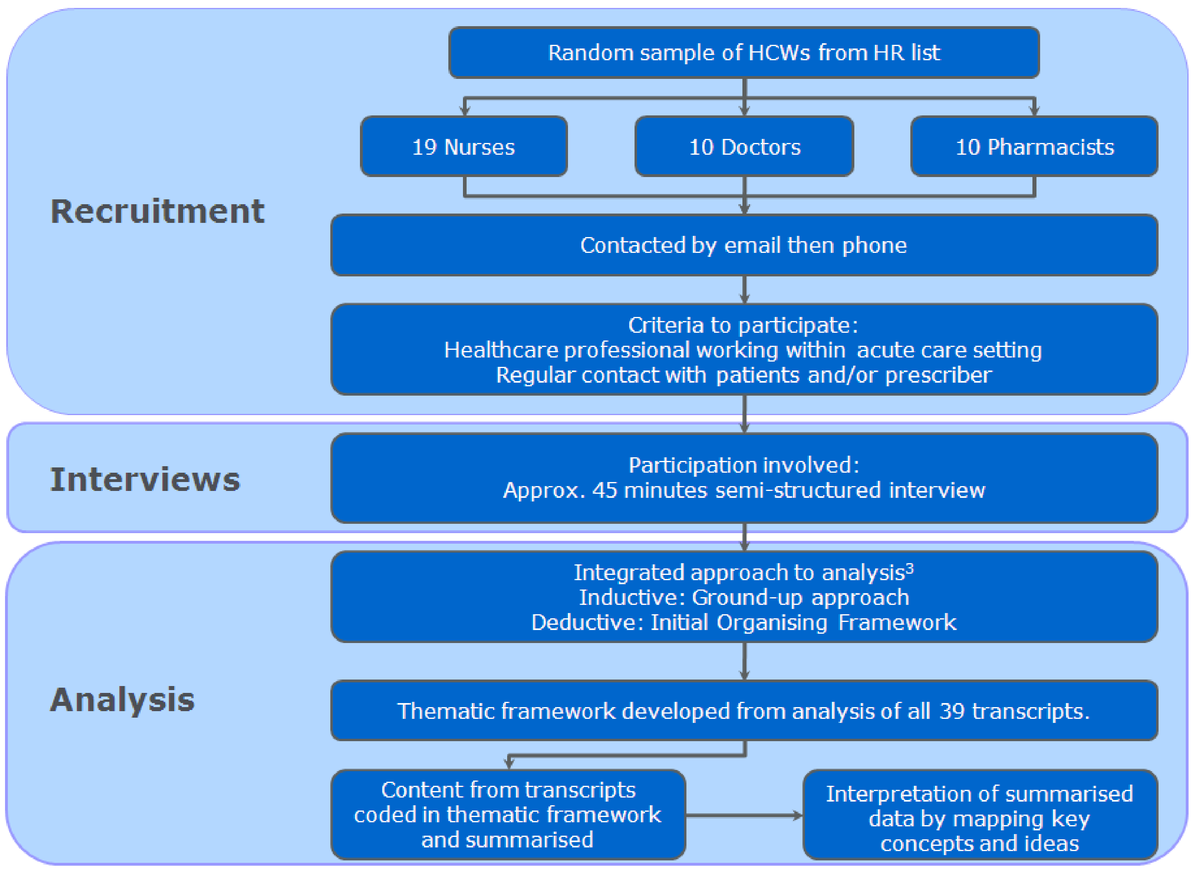
Background

Antimicrobial usage in acute care is widely reported to be suboptimal[1]. Suboptimal use of antimicrobials is a major contributing factor to emergence of multi-drug resistant pathogens and healthcare acquired infections with many interventions aiming to optimise antimicrobial prescribing behaviours (APB). A recent systematic review highlighted the paucity of qualitative research investigating APB.[2] This is despite studies reporting on the influence of the psychosocial determinants (attitudes, social norms and beliefs) of prescribing. For interventions to succeed and be sustainable, the underlying determinants of APB must be understood.

Aims

We report here on a qualitative study conducted amongst the three healthcare professional (HP) groups involved in prescribing and administration of antimicrobials in acute care: doctors, nurses and pharmacists.
The study aimed to identify: 1) HPs attitudes and perspectives on AP; 2) key barriers and facilitators to APB; and 3) key determinants of APB as reported by the study participants.

Methods



Results

The analysis identified 4 key determinants of APB:
1) influence of peers and seniors;
2) delineation of responsibility in AP;
3) influence of local and organisational culture on APB; and
4) experience and expertise as barriers and facilitators to optimal APB.
Risk assessment in decision making was identified as a cross-cutting behavioural theme in AP.

1. Influence of Peers and Seniors

Senior doctors and consultants influence APB and attitudes towards policy and its evidence base. Junior staff expressed difficulty in questioning 'out-of-policy' practices of their senior colleagues due to perceived social hierarchy or their own self efficacy in being able to question APB and their knowledge and experience in AP.

> *'Consultants are the people we listen to. It's partly because we know the hierarchy.'* Junior Doctor

> *' …within a hierarchy it's very difficult for a junior to point out to a senior if you think they are being deficient.'*
> Specialist Registrar, Renal Medicine

Results continued

> *'[...] If a junior doctor had somebody on an antibiotic and I didn't feel it was right, I would ask them [...] I rely that people are sensible, that are following guidelines, that the pharmacist has checked them, the middle ranking doctor's checking them, whilst it's my responsibility the patient has the right treatment [...] I assume my patients are on the right treatment, I can't tell you they are, I haven't seen their drug charts.'* Consultant, Oncology

2. Delineation of Responsibility

The boundaries for APB are clearly and traditionally defined and recognised by HPs. With junior doctors being unanimously recognised as the HP group undertaking the majority of AP. Pharmacists are perceived as a safety net for APB. Whilst nurses identify a limited and indirect role for themselves (with a focus on highlighting unusual prescribing practices), other HPs suggest a logistic role for nurses (maintain adequate drug stock levels etc.) facilitating prudent prescribing.

3. Influence of local and organisational culture

Health professionals identify themselves and their APB very closely with the units and specialties they work in. The local influences are dictated by seniors and peers in the team, as well as local policies and guidelines. The organisational culture is determined mainly by national targets and drivers.

> [On Antimicrobial Prescribing Policy] *It is very locally led, which is why, as I say, Hospital A is different to us and Hospital B different again.'*
> Pharmacist, Neonatal Intensive Care

> *'That was something I would have seen more in specialty A [prescribing out of policy]...I have to say that although we do use lots of broad spectrum antibiotics I think everyone does stick within our guideline pretty well.'*
> Specialist Registrar, Renal Medicine

> *'We've got a population of patients who are particularly susceptible and particularly vulnerable and so we've got our own unit and policy guidelines for antibiotic prescribing'*
> Specialist Registrar, Renal Medicine

> *'I think that would come with experience and knowledge […] I've worked on orthopaedics since 2004 so I think you kind of get used to antibiotics that patients are on […] you kind of get used to well asking a doctor, 'The patient's been on this antibiotic for five days orally, do they still need it?'*
> Nurse, Orthopaedics

Risk assessment in decision making is an overarching theme emerging from the interviews. HP tend to carry out a risk assessment of each individual situation to ascertain the value of their own APB or intervening in APB of others.

4. Experience and expertise

Experience (as measured by years of practice) and expertise increases the confidence HPs have in their ability to contribute to optimal AP. However, more junior staff have a greater exposure to different specialties due to their rotational training and can therefore facilitate optimal AP through their knowledge of the different cultures operating in the organisation.

> *'Something may not adhere to the policy but there might be a rationale behind the prescribing [...] So if I knew it was appropriate for them to change because they're not allergic, they don't require IVs because they're not absorbing orally [...] I would question it.'*
> Pharmacist, Neonatal Intensive Care

Discussion

The importance and priority assigned to optimising AP by consultants can act as a facilitator to the APB of more junior staff. There is a clear sense of affiliation of HPs to specialties and units in which they work, with HPs recognising the importance of following local and specialty led policy that is endorsed by leading clinicians within the specialty. However, due to their exposure to different clinical specialties, junior staff can facilitate organisational coherence in AP if supported by senior colleagues.

The traditional lines of responsibility in prescribing prevail, with pharmacists identified as having a supporting role in APB. Despite the multidisciplinary nature of antimicrobial prescribing and management a role for nurses in influencing APB was not identified.

Conclusion

For interventions targeting APB to be successful and sustainable it is important to utilise the identified facilitators, and address the barriers. When developing interventions targeting AP it is important to recognise the value of multidisciplinary engagement with different specialties and local ownership and endorsement. These social determinants need to be considered and used as facilitators in interventions designed to influence APB. Future qualitative studies need to explore the role, if any, of nurses as facilitating optimised antimicrobial prescribing in acute care.

References

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