

PERCEPTION OF HOSPITAL PHARMACISTS TOWARDS PHARMACOGENETIC TESTING

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INTRODUCTION

Pharmacogenetic (PGx) testing can be used as a tool in personalised medicine. PGx has potential to improve drug efficacy, patient safety and clinical outcomes and decrease healthcare costs.¹ Advances in PGx may provide for the expansion of the role of hospital pharmacists in precision pharmacotherapy.

AIMS

To assess awareness, attitudes and confidence of hospital pharmacists regarding PGx testing.

METHOD

1. Development of self-administered questionnaire

5 sections: Participant demographics, Awareness, Education and Training, Attitudes, PGx Testing in Practice

2. Psychometric evaluation of questionnaire

Validation: Panel of 9 members (5 pharmacists, 4 physicians); Consensus reached after two rounds.

Reliability testing: 9 participants, Test-retest method (Day 1, Day 14); Questionnaire deemed reliable and accepted.

3. Dissemination of questionnaire

Questionnaire was disseminated to 70 hospital pharmacists practicing in 4 hospitals (3 public, 1 private) after ethics approval.

Descriptive statistics were calculated.

RESULTS

- Forty-two pharmacists answered the questionnaire; 24 female, 18 male (18 practicing for more than 10 years).
- Forty-one pharmacists were aware of the term 'PGx testing'. Awareness and attitudes of the pharmacists in relation to PGx testing are shown in Table 1 and 2.
- Seventeen pharmacists perceived the need to order a PGx test at least once monthly. The greatest challenges for PGx testing implementation were cost issues (n=41) and lack of healthcare professional awareness (n=39).
- Lack of confidence was expressed in recommending (n=31) a test, in interpreting test results (n=35) and discussing test results with patients (n=31). Thirty-eight pharmacists believe that they require education and training to increase competency and confidence in PGx testing. Seminars (n=29) and courses (n=24) were the preferred approaches for acquiring further education on PGx testing.

Table 1. Awareness of PGx testing (N=42)

Pharmacists were 'moderately' and 'extremely' aware of:	Number of pharmacists
Advantages of PGx testing	27
Limitations of PGx testing	11
Drugs for which PGx is required/recommended	13
Availability of PGx information resources	12
Drugs for which PGx testing is performed locally	5

Table 2. Attitudes towards PGx testing (N=42)

Pharmacists 'strongly agreed' and 'agreed' that PGx testing:	Number of pharmacists
Guides individualised therapy selection and dosing	41
Should be a government-funded service	30
Leads to reduced healthcare costs	24
Is applicable for use in their practice	21
Should be routinely implemented in practice	25

CONCLUSION

PGx is considered to be a measure to achieve personalised medicine by pharmacists and is applicable for use in their practice, however lack of confidence and the need of further training is expressed²; these findings have also been reflected by participants in this study. Increased training to improve competency in PGx testing and the designing of a standardised framework with regards to application of PGx testing in practice will have an effect on the role of the hospital pharmacist in precision medicine.

REFERENCES

- ¹Klein ME, Parvez MM, Shin JG. Clinical implementation of pharmacogenomics for personalised precision medicine: Barriers and solutions. *J Pharm Sci.* 2017;106:2368-79.
²Kennedy MJ. Personalized medicines-are pharmacists ready for the challenge? *Integr Pharm Res Pract.* 2018;7:113-23.

