

Original Article

Preliminary Study on Evaluation of Knowledge, Attitudes and Practices (KAP) of Pharmacy Workers on Generic Vs. Branded Medicine in Colombo District, Sri Lanka

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ABSTRACT

Pharmacists, apprentice pharmacists and non-pharmacists belong to the same umbrella of pharmacy workers as they all work in a pharmacy. They perform a wide range of tasks within the pharmacy. In addition to ensuring that the medications patients are prescribed are appropriate, speciality pharmacists also help patients with concerns and provide advice on how to take their medications and potential side effects. Therefore, pharmacy employees must have the right knowledge, attitudes, and behaviours for a pharmacy to run well and to provide the right medication along with the right guidance. This study aimed to investigate pharmacy workers' knowledge, attitudes and practices (KAP) in the Colombo district. A descriptive cross-sectional study was performed among pharmacy workers in the Colombo district, including pharmacists and non-pharmacists, using a structured questionnaire. The ethical clearance was obtained from the Ethics Review Committee, CINEC Campus. Out of 100 participants, 15% were pharmacists, 37% were assistant pharmacists and 48% were pharmacy-supporting workers. Among the participants, 60% agreed with substituting generics for branded medicines in all cases where a generic is available. While 14% disagreed with that, 26% were neutral. However, 61% believed some medicine brands are more effective, and 6% disagreed. Among participants, 33% mentioned that sometimes they believe some brands are more effective. Further, 5% of participants always dispense other brands in addition to the brand which the doctor has prescribed. While 89% are only dispensed to other brands when the prescribed brand is unavailable, 6% have never done so. Out of the 5% of participants who always dispense other brands

20% are pharmacists and 80% are non-pharmacists. Also, 93% of participants usually inform the patients when they change the brand, and 7% are not informed. According to the results, some workers still needed to have adequate KAP regarding generic and brand of drugs. Hence, it is concluded that some healthcare workers at pharmacies require further improvement based on KAP.

Index Terms- Apprentice pharmacists, Pharmacists, Branded Medicine, Generic

INTRODUCTION

Colombo District, Sri Lanka, has a vibrant pharmaceutical scene that serves the varied healthcare needs of its residents by allowing branded and generic medications to coexist. Selecting between branded and generic pharmaceuticals is a crucial decision that is impacted by a variety of factors, including familiarity, perceived efficacy, and cost. The main goal of this study is to comprehend pharmacy employees' knowledge, attitudes and practices (KAP) about these drugs in this particular environment.

Pharmacy employees, who act as first-line intermediaries between patients and prescription drugs have more impact on getting the desired drug by consumers or patients. People looking for healthcare solutions choose medications largely based on their observations and activities. The influence on good prescription and dispensation patterns dissects their knowledge, attitudes, and operational practices regarding generic and branded drugs.

Pharmacy workers must adhere to established treatment guidelines, to ensure that patients comprehend the purpose of their prescribed medications (generic or branded), any potential side effects, interactions with other medications, and the proper way to take their medication and ensure that the recommended treatment regimen is as straightforward as possible. To prevent issues, the patient should be informed of the rationale and benefits of moving to a generic drug if they are unable to afford the branded one. The true cost of the drugs and the effects of getting to a generic version may be more effectively taken into consideration.

In 2017, Straka *et al.* [1] state that, when it is medically justified, doctors and patients should be permitted to request the branded product in specific therapeutic areas. Each patient should have their own decisions about getting generic medications, together with information about any potential negative effects. The transition and evaluation of its overall effects need proper monitoring and good general education regarding the medicines available for purchase [1].

In some countries, switching to a different prescription source is a recommended practice to lower healthcare expenditures. However, when narrow therapeutic index medications are administered, care should be used. If bioequivalence is demonstrated, switching from brand to generic is a feasible course of action. Certain drugs, such as those with a narrow therapeutic index, critical dose, or significant variability, need to be monitored with great care as they cannot be interchanged with innovative equivalents according to the preferences of patients or pharmacy workers [2].

Comparatively, to branded medications, generic drugs were perceived negatively in another study with participants reporting that they were less effective, inferior, and caused more side effects [3]. These data reveal that registered pharmacists worldwide, substitute generic medications for branded ones. Similarly, a different survey conducted among medical students revealed favourable opinions and understanding regarding the prescription of generic medications [4]. Adequate knowledge about some aspects of the

pharmacokinetics of generic medications needs to be improved among the pharmacy workers regarding the issue of generic drug cost and quality for a better health care service within a country [5].

It is more challenging for pharmacists to dispense certain drugs because of the abundance of branded generics that are available in the pharmacy. Throughout the procedure, they typically dispense goods regardless of quality that are sold at the highest profit margin. Most of the time unattractive packaging and unavailability of advertising activities contribute to the lower appeal of unbranded generics [6].

Moreover, many studies, emphasize the necessity of changing the policy regarding medicine prices, controlling markups in the generic supply chain, and conducting and widely publicizing quality testing of generics to raise awareness among all relevant parties [7].

Community pharmacists state that factors such as patient demand for the medication, manufacturer credibility, bonuses, and incentives affected how generic medications were stocked and dispensed in their establishments. Pharmacists had a favourable opinion of generic medications and substituting branded with generics. Educational intervention and continuing education training programs are necessary to enhance pharmacy workers' dispensing practices of generic medications. [8].

Hence, this investigation is important because these assessments yield, important information to improve drug availability, use, and overall health outcomes and the way of these behaviours and attitudes affect patients' views and compliance with recommended therapies is crucial. Additionally, this study lays the groundwork for future interventions and educational programs aimed at improving pharmacy employees' and customers' ability to make well-informed prescription decisions.

This study aimed to evaluate pharmacy employees' KAP about the generic vs. branded medications, in the Colombo area to evaluate the correct operation of a pharmacy.

METHODOLOGY

The Research study was a descriptive cross-sectional study. The study population was pharmacy workers working in the Colombo district, Sri Lanka, 20-60 years of age and given their consent to participate in the study and those free of any physical or mental disabilities that may hinder them from responding to the questionnaire. Participants who did not wish to provide data for the research and those who did not comply with the relevant admission recommendation were excluded. The pharmacy workers were divided into three categories, i.e. pharmacists, apprentice pharmacists and other pharmacy workers. The people who have registered at the Sri Lanka Medical Council (SLMC) with a registration number, was considered a pharmacist. The individual who applied for the pharmacist examination registration and following the training period was considered as an apprentice pharmacist. The individual who works in the pharmacy assists pharmacists and apprentice pharmacists in the proper functioning of the pharmacy but does not fulfil the minimum educational qualification to register as the apprentice pharmacist considered as other pharmacy workers.

The sample size was calculated by using a standard formula ($n = [Z^2 \times p(1-p)]/d^2$ where n = Sample size, Z = standard normal deviation for the chosen confidence level. Z will be 1.96 in confidence level 95%, p = expected proportion of the subjects with the characteristics and d = margin of error). The sample size in this preliminary study was 100 participants.

The Survey contained questions selected to assess the KAP toward using generic vs branded medicine. Survey data were collected from a convenience sample, using a self-administered questionnaire survey. Structured questionnaires with close-ended questions were used in the current study to gather information about respondents' KAP regarding generic vs branded medicine. A validated questionnaire was prepared as a Google form in three languages i.e. Sinhala, English and Tamil, and distributed through social media platforms openly inviting pharmacy workers in the Colombo district, Sri Lanka. Those

who had consent to participate in the study filled out the consent form and the questionnaire.

Ethical clearance for this study was obtained from the Ethics Review Committee of the CINEC Campus, Malabe, Sri Lanka (ERC No:ERC/CINEC/2021/009).

The questionnaire consisted of question categories belonging to socio-demographic characteristics and KAP belonging to generic vs branded medicine.

The data was analysed using SPSS version 26. Descriptive statistics, mean \pm SD, frequencies, and percentages were computed. Normality is assessed using graphical representations and Kolmogorov statistics. The continuous variables were compared using ANOVA and categorical variables using Chi-square statistics. $p < 0.05$ was significant.

RESULTS

The socio-demographic characteristics of the pharmacy workers in Colombo district, Sri Lanka are shown in Table 1. Among the participants, the majority were female (55%) and belonged to the age category of 20- 30 years (86 %).

Table 1: Socio-demographic characteristics of the pharmacy workers in Colombo district, Sri Lanka (N= 100).

Variable	Frequency (%)
Gender	
Male	45
Female	55
Age	
20-30 Years	86
31-40 Years	8
41-50 Years	3
51-60 Years	3
Highest Educational Qualification	
G. C. E. Ordinary Level (O/L)	0
G. C. E. Advanced Level (A/L)	56
Diploma	24
Degree	16
Postgraduate	4
Educational qualification related to the pharmacy or pharmaceutical field	
Yes	60
No	40
Employment position	
Pharmacist	15
Apprentice pharmacist	37
Other pharmacy worker	48
Duration of working experience	
Less than 1 year	54
1-3 years	35
3-5 years	4
5-10 years	4
More than 10 years	3
Continuous working hours	
Less than 2 hour	14
2 hours	17
2 - 5 hours	34
5 - 8 hours	19
More than 8 hours	16

The agreement for the statement of “Some medicine brands are more effective” is shown Figure 1.

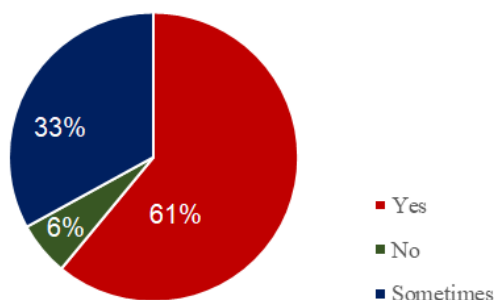


Figure 1: The agreement for the statement of “Some medicine brands are more effective”

Among the pharmacists, 66.67% agreed with the statement “Some medicine brands are more effective” and none of was disagreed. 33.33% of pharmacists mentioned some medicine brands are sometimes more effective. Among the apprentice pharmacists, 51.35% and 10.81% agreed and disagreed with the statement “Some medicine brands are more effective” respectively. However, 37.83% of apprentice pharmacists said it is true only at sometimes. Also, 66.67% of other pharmacy workers believed some medicine brands are more effective while 4.16% of them unbelieved it. Further 29.16% of other pharmacy workers agreed with the statement that some medicine brands are more effective only sometimes.

The study has evaluated the practice of pharmacy workers in substituting other brands in addition to the specific brand prescribed by a medical practitioner (Figure 2)

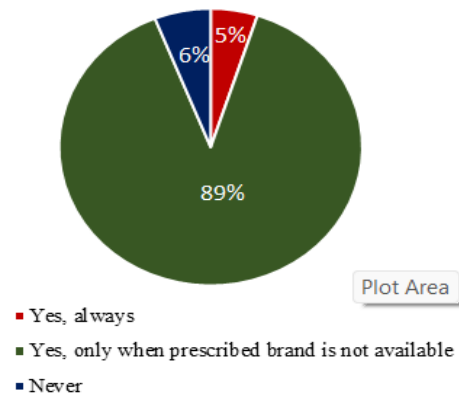


Figure 2: The agreement for the statement of “substituting other brands in addition to the specific brand prescribed by a medical practitioner”

In the Sri Lankan pharmacy system, only pharmacists have the authority to issue medicines to the patient according to the prescription delivered by a registered medical practitioner. Although apprentice pharmacists and other pharmacy workers do not directly issue medicine to a patient, they assist the pharmacist to put the drug. Hence, we evaluated the attitude and practices of all pharmacy workers regarding “substituting other brands in addition to the specific brand prescribed by a medical practitioner”.

Among the 5 % of the participants who always substitute the brands other than the brand prescribed by the medical practitioner 20% are pharmacists and 60% are apprentice pharmacists. The rest of 20% are other pharmacy workers. However, among the pharmacist participants of the research, 73.33% are substituting brands from another brand when only the prescribed brand is not available at the pharmacy. This is also done by 91.89% of apprentice pharmacists and 91.67% of other pharmacy workers. However, 20% and 0% of pharmacists and apprentice pharmacists never substitute brands other than to the brand on prescription, respectively. The study showed that 6.25% of other pharmacy workers also never substitute brands other than the prescription brand.

Also, among the participants, the majority agreed with substituting generics for branded medicines in all cases where a generic is available (Figure 3). Among the pharmacists, 53.33% agreed about substituting generics for branded medicines in all cases where a generic is available while 20% disagreed. However, 26.67% of pharmacists are neutral on this. Also, 56.76 % of apprentice pharmacists and 64.58% of other pharmacy workers agreed with substituting generics for branded medicines while 10.81% and 14.58% disagreed respectively. Further, 32.43% of apprentice pharmacists and 20.83% of other pharmacy workers were neutral on this statement.

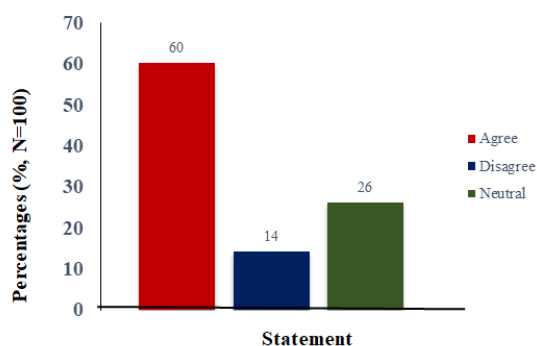


Figure 3: Generic substitution for branded medicine

To evaluate the practices related to selling of brands, in pharmacy workers in the Colombo district, Sri Lanka, the questionnaire consisted of a question “Do you inform the patients when you change the brand of the medicine?” Among the participants, majority responded “Yes” (Figure 4).

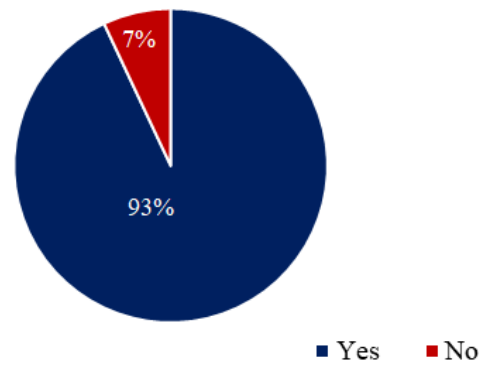


Figure 4: Inform the patients when changing the brand of the medicine

Among the 15% of pharmacists in the total participants of the study, 86.66% informed the patients when changing the brand of the medicine while 13.33% did not. Further, 97.29% of apprentice pharmacists and 91.66% of other pharmacy workers are informing the patients when changing the brand of the medicine. However, 2.70% of apprentice pharmacists and 8.33% of other pharmacy workers are not informing the patients when changing the brand of the medicine.

DISCUSSION

In the Sri Lankan aspect, the pharmacists, apprentice pharmacists and other pharmacy workers play an enormous role together in the healthcare sector. Retail pharmacists distribute prescription drugs to the general public and instruct clients on illness prevention, health promotion, and the correct use of medications. In addition to that they are responsible for selling non-prescription medications and associated items. Under the close supervision of a pharmacist, a pharmacy apprentice carries out the duties. When it comes to measuring, mixing, or labelling prescription drugs for consumers, pharmacy apprentice helps pharmacists prepare medicines. Although other pharmacy workers are not directly involved in dispensing medicine to a patient, they also assist pharmacists and pharmacy apprentices to make their duties. Hence, pharmacists, apprentice pharmacists and all other pharmacy workers play important roles in the smooth functioning of pharmacies and assessing their KAP regarding different factors which can affect their role will help to appropriate operation of the pharmacy as well as to develop awareness programmes in future. Because of that this study

aimed to evaluate pharmacy employees' KAP about the generic vs. branded medications, in the Colombo area.

Several previous studies have evaluated the knowledge and attitudes of pharmacists toward generic drugs internationally. According to a similar study conducted by Al-Arif [5], the majority (85%) supported generics over branded medicines in all cases where a generic is available. 60.4% of the participants had the attitude that pharmacists should be allowed to perform generic substitutions without consulting the prescribing physician while 48% agreed that they should consult physicians before prescribing generics to patients. That study reported that pharmacy students have a sufficient level of knowledge of generic medicines [5].

In many countries, the attitudes toward generic medicines are not positive as they believe that in some cases generic medicines do fail to give desirable results [9]. Previous studies reported that Saudis have negative beliefs about the quality and efficacy of generics and consumers' attitudes toward the high efficacy and safety of branded medicines [10]. A Yemen study among pharmacy students also revealed this same negative belief while another study among Pakistan healthcare students has given positive perceptions and knowledge about generic medicine [5].

According to a related study conducted in India, different experiences and preferences influence prescriber's decisions on generic and branded medicine. Although the pharmacist can decide on the brand when the prescriber writes only a generic name on a prescription, in most cases, doctors do not tend to prescribe the generic drug as they are not satisfied with the safety and effectiveness of generics compared to branded medicines [11].

The practice of generic substitution among registered pharmacists varies from country to country with their different laws. In Great Britain, it is not permitted whereas in Canada, all provinces except British Columbia allow this according to a regulated list. Without informing the consumer, pharmacists make some substitutions [9].

In selling medicines, generic drugs are not profitable as compared to branded medicines and therefore, this can be influential on the attitudes of pharmacists. In addition, less demand and lack of availability of generics has become a reason that generics are not popular in the Indian market [11].

However, to maintain their positive contribution, pharmacy workers must have a good KAP regarding the medicines that they dispense. With the ultimate aim of contributing to patient safety in the country, we have planned this research to investigate the current level of KAP toward Generic vs. branded medicines by pharmacy workers in the Colombo district.

Also, as this is a preliminary study with 100 pharmacy workers, we are expecting to continue this study to reach more pharmacy workers in the Colombo district and also to expand the study into other districts.

CONCLUSION

The results concluded that awareness an average lower level than expected. Even some pharmacy workers lacked knowledge and practices regarding Generic vs. branded medicines. The analyzed results confirmed that pharmacy workers are still violating the law, leading to profound malpractice in retail pharmacies.

Furthermore, these findings will be helpful for any authority to be concerned about the supervision given to new pharmacy workers and implement new rules and regulations as a part of a plan to uplift their knowledge and awareness.

DECLARATIONS

A. Study Limitation

This study was limited to 100 pharmacy workers in the Colombo district Sri Lanka. This was taken as a preliminary study and the study should continue to reach maximum sample size. Moreover, self-reported answers were vulnerable to biases and errors in reporting, which might lead to an overabundance or underabundance of information because of misinterpreted questions.

B. Acknowledgements

The authors would like to thank all participants who had volunteered for the study.

C. Funding source if any

None.

D. Conflict of Interests

No conflict of interest exists in this publication.

E. Ethical Approval

This study was reviewed and approved by the Ethics Review Committee of CINEC Campus, Malabe, Sri Lanka.

F. Informed Consent

Informed consent which was approved by the Ethics Review Committee of CINEC Campus, Malabe, Sri Lanka was shared with the participants before the questionnaire

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