

# Investigating Pharmacists' Views on Implementing Pharmacy Research Priorities in Malaysia: Insights from Focus Group Discussions

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## Abstract

**Introduction:** The Pharmacy Research Priorities in Malaysia (PRPM) was published to guide pharmacy research planning and direction in Malaysia.

**Objective:** This study aimed to explore the perceptions of MOH pharmacists in utilising this document during their research activities.

**Methods:** Two online focus group discussions (FGD) were conducted among MOH pharmacists. Video recordings were transcribed verbatim. Qualitative analysis software, ATLAS.ti 22 was utilised for inductive thematic analysis, employing open and axial coding techniques to derive relevant themes and sub-themes.

**Results:** Five main themes emerged, which were [1] awareness of the MOH pharmacists towards PRPM; [2] perceptions of MOH pharmacists towards PRPM; [3] utilisation practices; [4] barriers in utilising the PRPM document; and [5] recommendations to improve the uptake of PRPM. Overall, the PRPM document was perceived as useful in guiding the pharmacists to conduct research, but they normally did not refer to it when conducting research. Instead, it was primarily used for reporting purposes. Several barriers were identified including exhaustive length of the document as well as partial understanding of its function and how to make use of it by the pharmacists. Minimal promotional activities conducted for the document also contributed to its low utilisation.

**Conclusion:** Overall, the PRPM document was perceived to be beneficial but the response received during FGDs showed low utilisation of the PRPM document among the pharmacists. Further study should be conducted to assess the uptake of this document by other pharmacy researchers beyond the MOH and initiatives should be taken to improve the PRPM utilisation.

**Keywords:** Document utilisation, research priorities, qualitative, focus group discussion, thematic analysis

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## Introduction

The Pharmaceutical Services Programme (PSP), Ministry of Health Malaysia (MOH) published the Pharmacy Research Priorities in Malaysia (PRPM) in July 2018 (1). The primary aim of the PRPM document was to provide guidance for pharmacy research endeavours within the country. This initiative is important to generate essential data and evidence to bridge knowledge gaps and address national health issues in Malaysia. The PRPM encompasses five research priority domains, namely [1] Access to medicines, [2] Monitoring and evaluation of outcomes, [3] Quality and safe use of medicines and sustainability, [4] Optimisation of therapy and pharmacy services delivery, and [5] National databases/ big data analytics.

The PRPM document is publicly accessible at the official portal of PSP, MOH ([www.pharmacy.moh.gov.my](http://www.pharmacy.moh.gov.my)) and it has recorded 8625 reads on the portal as of October 2021. Lectures and webinars have been conducted at both national and state levels to enhance the awareness among MOH pharmacists. Despite these efforts, the actual distribution and utilisation of the document remained unknown. Since the PRPM primarily functions as a reference document, researchers in the pharmacy field in Malaysia are strongly encouraged, though not obligated, to align with the research domains outlined.

Given the substantial investments in encouraging MOH pharmacists' active involvement in research, understanding their perspectives and experiences with the PRPM is crucial. These insights will enable the development of targeted strategies to enhance the promotion, distribution, utilisation and adoption of the PRPM. The increased uptake of research priority areas outlined in the PRPM document will ensure that research projects undertaken by MOH pharmacists align with the research needs and critical evidence gaps in the country.

In this study, we aimed to explore MOH pharmacists' perceptions towards the PRPM document through focus group interviews. During the focus group discussions, we looked into three main questions which are: [1] What was the awareness and how was PRPM document being utilised by MOH pharmacists? [2] What were the barriers hindering the utilisation of PRPM document among MOH pharmacists? [3] Which interventions could alleviate the barriers and improve the utilisation of PRPM document among MOH pharmacists?

## **Methods**

### *Study design*

This qualitative exploratory study was conducted in December 2021. The phenomenology study design using focus group discussion (FGDs) was conducted among MOH pharmacists.

### *Study participants*

Twelve MOH pharmacists spanning diverse research experiences, disciplines and geographical locations across Malaysia were recruited via purposive sampling (2,3). The goal was to capture insights not only from pharmacists who were actively engaged in research at their workplace but also from those with little or no involvement in any research activities, ensuring a diverse range of perspectives in the FGD deliberations. The participants were divided equally into two focus groups, ensuring a balanced mix of those actively conducting research and those with less experience in research to promote homogeneity within each group.

### *Data collection*

Due to the social distancing measures and travel restrictions imposed amid the emergence of the Omicron variant during the COVID-19 pandemic, two online FGDs were conducted using a secure Cisco Webex video conferencing platform (4–6). The FGDs were conducted simultaneously and moderated by NIAM & SWH with assistance from NN & PLC for notetaking throughout the sessions. A topic guide, featuring semi-structured questions reviewed by the special taskforce responsible for establishing pharmacy research priorities in Malaysia was employed to facilitate the FGDs (Appendix 1). The focus of the topic guide encompassed (1) awareness and utilisation of the PRPM document, (2) barriers to utilising the PRPM document, and (3) interventions to improve the utilisation of PRPM.

At the start of each FGD, the moderators introduced themselves and provided a brief explanation of the study's purpose. Participants were requested to complete an online informed consent form (Google Form) expressing their willingness to participate in the FGD and granting permission to record the session. The FGDs were primarily conducted in English with occasional usage of Bahasa Malaysia at participants' comfort. A debriefing session was conducted among the researchers upon the conclusion of the FGDs.

### *Data analysis*

The video recordings of each FGD were transcribed verbatim. Participants' identifiers were removed to ensure anonymity and interviews in Bahasa Malaysia was transcribed as is, without translations but were coded in English. The transcripts were analysed using inductive thematic analysis on ATLAS.ti 22 for desktop (7). Labels were attached independently to the quotes using open coding by NIAM and NN. The codes were then compared and discussed among the researchers to create a codebook (8). Themes were expanded and merged to refine the codebook with any existing discrepancies being deliberated until a consensus was achieved in identifying relevant themes and sub-themes. Subsequently, axial coding was applied to unveil connections between open codes and to search for central themes. The study followed consolidated criteria for reporting qualitative studies (COREQ) guidelines (9). The selected quotes in Malay were translated into English for report writing and publication purposes. The translations were done by NIAM and were checked multiple times by other researchers (NN, HSW and CPL) to avoid miss-translation.

## Results

Both FGDs lasted for approximately two hours. Initially, 12 participants were recruited (5,10) but due to urgent work demands, one participant from each group was excluded as they did not participate in the group discussions until the end. Consequently, there were only five participants for each group representing five different MOH health facilities and administration offices across Malaysia included in this study. A detailed overview of the participants was provided in Table 1. There were six females and four male participants with the majority falling within the 31-40 years age range. Seven participants had over ten years of experience as pharmacist in the public healthcare setting. Six participants had pursued postgraduate Master's degree, while only one participant had successfully obtained a doctoral degree. Two participants had no research experience and were not currently involved in any research projects. Six participants had more than five years of research experience and eight participants were either currently engaged in a research project or planning to start one.

Table 1: Participants' demographic characteristics (n=10)

Demographic characteristics	n
Gender	
Female	6
Male	4
Age (years)	
21-30	1
31-40	7
>40	2
Academic qualification	
Undergraduate degree	3
Postgraduate master's degree	6
Doctoral degree	1
Work experience as pharmacist (years)	
6-10	3
11-15	5
>15	2
Workplace setting	
MOH headquarters	3
Major specialist hospital	2
Minor specialist hospital	1
State hospital	2
State health department	2
Research experience (years)	
0	2
1-5	2
6-10	3
>10	3
Current involvement in any research project	
Currently involved in a research project	7
Planning to start a research project	1
Not at all	2

Thematic analysis of the data yielded five primary themes: (1) awareness of MOH pharmacists towards PRPM; (2) perceptions of MOH pharmacists towards PRPM; (3) utilisation practices; (4) barriers in utilising the PRPM document; and (5) recommendations to improve the uptake of PRPM. Each theme was further divided into several sub-themes.

### Theme 1: Awareness of PRPM

Eight participants were aware of the PRPM document and its online availability on the PSP website, although their levels of understanding and exposure varied. They participated in a webinar session organised by the PSP, designed to introduce PRPM to all MOH pharmacists. Additionally, the state representatives of the MOH National Pharmacy Research and Development Committee (JKR&D) offered detailed explanations about PRPM to them.

*P7: "The state-level management shared and introduced these priorities to us, encouraging us to refer to these priorities when conducting our research activities."*

*P1: "We joined the webinar session by the deputy director from the PSP."*

## **Theme 2: Perceptions towards PRPM**

The participants' perceptions regarding the document's function were largely in alignment with the objectives outlined by the PSP for the PRPM. While not mandatory for researchers to refer to the PRPM during the planning and execution of their research, it did provide them with new research ideas. The document's delineation of essential research areas and expected outcomes assisted researchers in determining which research topics should be given precedence. Prioritisation of research activities is expected to bridge the knowledge gap and ultimately support decision-making process aimed at enhancing pharmaceutical services in Malaysia.

*P8: "The goal is to help our pharmacists to conduct research that contributes to our pharmacy service and aid the decision-making for new guidelines or policy changes."*

*P7: "It outlines all the research scopes and research areas. Soon, you can compare which treatment is better. The details are ranked for you to prioritise, with higher rankings indicating greater importance."*

*P1: "This document is useful for experienced researchers, helping them achieve the mentioned objectives to develop new policy and address knowledge gaps."*

Moreover, from an organisational standpoint, the participants acknowledged that PRPM document played a crucial role in aligning the trajectory of pharmacy research with the vision and mission of the MOH in ensuring beneficial inputs to pharmaceutical services in Malaysia. It streamlined management efforts in offering support for policy development and decision-making processes.

*P8: "... and from an organisational perspective, it's crucial to align with the vision and mission of the PSP. Otherwise, research may not be beneficial to our service."*

Finally, the PRPM document is also perceived to facilitate optimisation of available resources including financial and manpower.

*P7: "Personally, these domains and research scopes are established to direct resources and manpower areas prioritised by the PSP, emphasising their importance over other topics. Somehow it helps us stay focused on what needs attention."*

## **Theme 3: Utilisation of PRPM when conducting research**

The study investigated the participants' actual utilisation of the PRPM document and the factors motivating them to use it. Almost all participants reported that they did not refer to the documents when conducting their research. Research activities were typically initiated based on directives from immediate superiors or higher management within public healthcare facilities in Malaysia. Consequently, the practice of referring to the PRPM document before undertaking pharmacy research activities was not widespread among fellow pharmacists, as long as they complied with their superiors' instructions. Participants also indicated that their choice of research topics often stemmed from issues arising within their respective workplaces.

*P3: "In reality, most researchers don't refer to this document before starting their research. For the pharmacists on the ground, priority setting doesn't impact them much. Once they have a research idea, they proceed with it regardless it aligns with the priorities or not."*

*P10: "I believe that when our bosses request for a study, we quickly form a research group and immediately begin the research activities. Therefore, we don't typically refer to the document first."*

Instead of serving as a guide for researchers during their research endeavours, the PRPM document was more frequently employed as categorisation tool for the purpose of research reporting to the PSP.

*P8: "Okay, it is certainly relevant but usual practice is to conduct the research first. For reporting purposes, we then review the research domains and categorise our topic accordingly. We don't typically refer to the document before conducting the research."*

#### Theme 4: Barriers to Utilise PRPM

Two primary barriers were identified that impeded the utilisation of the PRPM document among MOH pharmacists. Firstly, the verbose explanations provided for each research domain in the document were considered non-user-friendly, making it challenging for pharmacists to navigate through the content. This aspect was perceived to potentially discourage the pharmacists from reading the entire document for a more comprehensive understanding.

*P2: "Examining the document, I find it quite wordy and the explanation is not very user-friendly. If I just distribute it to the facilities, I doubt they will read it."*

Secondly, participants harboured misconceptions and confusion regarding the functions of the domains and the relative rankings of the subdomains. This had hindered their optimal utilisation of the PRPM when conducting their research.

*P2: "We frequently mix up the evaluation of outcome and optimisation of therapy domains."*

*P1: "I am well-acquainted with the domains and subdomains, but upon closer examination, I realised there is a relative ranking which I am not familiar with at all."*

#### Theme 5: Recommendations to improve the uptake of PRPM

The participants shared their recommendations to overcome certain barriers and enhance the adoption or utilisation of the PRPM document. We categorised these recommendations according to the relevant stakeholders or responsible parties, as outlined below.

##### Pharmaceutical Services Programme as top management

The participants strongly suggested that the PSP enhance the promotion and dissemination methods of the document. They recommended exploring creative media such as interactive online platforms and concise multimedia presentations to simplify the document and capture the interest of readers.

*P8: "... perhaps an interactive website could enable us to specify our interests before directing us to the most relevant domains but definitely not in the form of book or PDF."*

*P10: "Nowadays everyone searches for YouTube video to understand things when needed. A brief video like this would attract more people to look it up."*

##### State level pharmacy management

As part of the state-level pharmacy management in the MOH, the JKR&D state representative plays a crucial role as a bridge between the PSP headquarter and the MOH pharmacists. Their responsibilities involve effectively disseminating the document and providing precise explanations to the pharmacists. The participants strongly suggested placing emphasis on the document's function, relative rankings and practical utilisation, particularly for junior pharmacists who are new to research. They also recommended that the JKR&D representatives conduct frequent follow-ups and provide updates to keep researchers aligned with the needs of the national pharmacy services.

*P7: "In larger states like Sarawak, the JKR&D state representative should play a more active role by appointing a representative from each district. This approach will effectively disseminate this document to all pharmacists in their respective health facilities."*

*P2: "I believe it would be more beneficial to increase promotion on the domains and the sub-domains. Ideally, thorough explanations of the sub-domains and relative ranking should be provided to everyone."*

*P1: "New researchers might require guidance in understanding the document. While they can gain some insight through independent reading, additional guidance may be needed to prioritise research topics effectively."*

#### Discussion

This exploratory study successfully delineated the awareness, perceptions, utilisation practice, barriers hindering pharmacists from utilising the PRPM document in pharmacy research and recommendations to enhance future uptake of PRPM document.

The study findings indicated that participants were aware of the PRPM document's existence and perceived it as a valuable tool for guiding prioritisation of research activities among pharmacists in Malaysia, especially when resources are constrained (11). Despite the perception that the document was

valuable and pertinent, MOH pharmacists were not observed to refer to it while conducting research at their respective workplaces. Instead, the document was primarily used as a categorisation tool for reporting pharmacy research activity. Quarterly, JKR&D state representatives compiled and submitted progress reports on research activities conducted by MOH pharmacists in their state to the national pharmacy research database (12). In this reporting process, researchers were required to identify the research priority domains their work belonged to by referring to the PRPM document. This usage pattern explains participants' perception of the PRPM document as a tool for categorising their research.

The primary intent of the PRPM document was to streamline research activities, facilitating the collection of relevant evidence to address national pharmaceutical issues (13). It included relative rankings to highlight areas in each domain requiring urgent research attention (14). However, the study revealed participants' misconceptions about the rankings' function and expectation that the document should offer detailed facilitation throughout their research activities. Importantly, it should be noted that the document was never intended as a code of practice for pharmacy research. The observed misconceptions among MOH pharmacists underscore the necessity for more effective promotion and educational activities concerning the PRPM document. For the forthcoming PRPM document, substantial efforts should be directed towards ensuring its widespread utilisation among researchers, considering the diverse healthcare needs and limited availability of resources in healthcare settings in Malaysia.

Several limitations were identified in this study. The COVID-19 pandemic posed challenges in collecting complete observational data such as overall body language as the FGDs were conducted online. Although video recordings were available, they mainly captured the participants' facade without providing a dynamic overview of interactions during the discussions. Hesitations in sharing opinions were noted, particularly among junior pharmacists. This might possibly be influenced by the presence of their superiors or senior pharmacists from their workplace. In order to foster flexibility and freedom in opinion sharing, future FGDs should involve participants from similar working grades. Despite these limitations, a notable strength of the study was the inclusion of participants not actively engaged in pharmacy research activities, ensuring a comprehensive documentation of acceptance and perspectives on the PRPM document.

## Conclusion

This study has contributed to clarifying the awareness, perceptions and utilisation practices of MOH pharmacists regarding the PRPM document in the context of their research activities. It revealed that utilising PRPM document to guide or prioritise research activities is not a prevalent practice among them. Consequently, there is an urgent need to address the efficient and optimal utilisation of the document, particularly considering the limited resources available for research in Malaysia.

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## Conflict of interest statement

The authors declare that they have no conflict of interest.

## References

1. Pharmaceutical Services Programme. Pharmacy Research Priorities in Malaysia [Internet]. Pharmaceutical Services Programme; 2018. Available from: <https://www.pharmacy.gov.my>.
2. Morgan D. Planning Focus Groups [Internet]. Thousand Oaks, California; 1998. Available from: <https://sk.sagepub.com/books/planning-focus-groups>
3. Huston SA, Hobson EH. Using focus groups to inform pharmacy research. *Res Soc Adm Pharm RSAP*. 2008 Sep;4(3):186–205. DOI: 10.1016/j.sapharm.2007.09.001
4. Tran B, Rafinejad-Farahani B, Moodie S, O'Hagan R, Glista D. A Scoping Review of Virtual Focus Group Methods Used in Rehabilitation Sciences. *Int J Qual Methods*. 2021 Jan 1;20:16094069211042227. DOI: 10.1177/16094069211042227
5. Hennink MM, Kaiser BN, Weber MB. What Influences Saturation? Estimating Sample Sizes in Focus Group Research. *Qual Health Res*. 2019 Aug;29(10):1483–96. DOI: 10.1177/1049732318821692
6. Guest G, Namey E, McKenna K. How Many Focus Groups Are Enough? Building an Evidence Base for Nonprobability Sample Sizes. *Field Methods*. 2017;29(1):3–22. DOI: 10.1177/1525822X16639015

7. ATLAS.ti. ATLAS.ti Scientific Software Development GmbH. Available from: ATLAS.ti | The #1 Software for Qualitative Data Analysis - ATLAS.ti (atlasti.com)
8. Combs J, Onwuegbuzie A. Describing and Illustrating Data Analysis in Mixed Research. *Int J Educ.* 2010 Dec 23;2. DOI: 10.5296/ije.v2i2.526
9. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care J Int Soc Qual Health Care.* 2007 Dec;19(6):349–57. DOI: 10.1093/intqhc/mzm042
10. Johnson R, Christensen L. Educational Research Quantitative, Qualitative, and Mixed Approaches Fifth Edition. [Internet] Sage Publications, Inc; 2014. Available from: [https://www.researchgate.net/publication/264274753\\_Educational\\_Research\\_Quantitative\\_Qualitative\\_and\\_Mixed\\_Approaches\\_Fifth\\_Edition](https://www.researchgate.net/publication/264274753_Educational_Research_Quantitative_Qualitative_and_Mixed_Approaches_Fifth_Edition)
11. McGregor S, Henderson KJ, Kaldor JM. How are health research priorities set in low and middle income countries? A systematic review of published reports. *PloS One.* 2014;9(9):e108787. DOI: 10.1371/journal.pone.0108787
12. Pharmaceutical Services Programme, MOH Malaysia. Manual KPI 2021 [Intranet]. Program Perkhidmatan Farmasi KKM. 2021. Available from: [manual-kpi-farmasi-2022.pdf](http://manual-kpi-farmasi-2022.pdf) (pharmacy.gov.my)
13. Pharmaceutical Services Programme, MOH Malaysia. Pharmacy Research Priorities in Malaysia. Pharmaceutical Services Programme. 2018. 1–76 p. Available from: <https://pharmacy.moh.gov.my/en/documents/pharmacy-research-priorities-malaysia-second-edition.html>
14. Okello D, Chongtrakul P. A Manual for Research Priority Setting using the ENHR Strategy. [Internet] The Council on Health Research for Development (COHRED); 2000. Available from: [https://www.cohred.org/publications/library-and-archive/a\\_manual\\_for\\_research\\_1\\_0/](https://www.cohred.org/publications/library-and-archive/a_manual_for_research_1_0/)

## Appendix I

### Focus Group Discussion Guide

1. Have you heard about Pharmacy Research Priorities in Malaysia (PRPM)?
2. What do you know about the Pharmacy Research Priorities in Malaysia?
3. Have you referred the document?
4. Are you aware of the purpose and function of the document?
5. How relevant are the research priority areas listed in the PRPM document to your practice?
6. How important is it to have a document like PRPM?
7. How to encourage MOH pharmacists to refer to the document?
8. What do you think the Pharmaceutical Services Programme should do to improve the uptake of PRPM document?