

## ORIGINAL ARTICLE

# Views and Factors Influencing Primary Care Practitioner (PCP) Interactions With the Pharmaceutical Industry's Representatives in Malaysia: A Multi-sectors Qualitative Study

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## ABSTRACT

**Introduction:** Pharmaceutical companies invested billions in direct marketing to medical practitioners as it increased sales of prescription drugs. Medical professionals believed that their decision-makings was not influenced by such interactions, but studies have shown that engaging with the industry and accepting gifts might lead to impulses to reciprocate, such as prescribing marketed drugs. This study explored the views and experiences of PCP on interactions with the pharmaceutical industry's representatives. **Methods:** We used qualitative methods using semi-structured interviews among primary care practitioners from three sectors; academic, public and private. Participants were purposively sampled from various sectors. Interviews were audio-recorded, transcribed verbatim, and analysed thematically. **Results:** A total of 32 participants were interviewed. The ages of the participants ranged from 33 to 53 years. Most of the participants were female, of Malay ethnicity and from the public sector. Four themes emerged from the analysis: (1) Perceived impact of interactions on prescribing habits, (2) Perceived benefit and harm of interactions, (3) Previous positive or negative encounters, (4) the role of geographical, organisational and policy. **Conclusion:** The study highlighted the views and factors influencing PCP interactions with the representatives of the pharmaceutical industry in Malaysia. Understanding PCPs' viewpoints on such interactions could help PCP better navigate their future interactions without compromising their clinical decision-making through multi-agency collaborations and actions.

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shared with them by the pharmaceutical representatives, works of literature have shown that these interactions may have profound ethical impacts on medical decision makings such as prescribing habits [1, 3, 5, 6].

## INTRODUCTION

Medical practitioners have many forms of relationship with pharmaceutical representatives throughout their career in medicine and they interact frequently. This relationship may have a common ground for the benefit of the patients whereby both parties worked together in research to provide safe and effective medications [1]. From the perspective of the pharmaceutical industry, interactions with medical practitioners work in their favour. Pharmaceutical companies pumped billions into advertising and marketing directed at physicians because it increased sales of prescription drugs [2-4]. Despite the arguments that practitioners' medical decision makings were not affected by the gifts and information

Medical practitioners' knowledge, and attitudes towards interactions with pharmaceutical representatives, varied across the literature. For knowledge of medical practitioners on interactions with pharmaceutical representatives, a survey found that 11% of the statements made by pharmaceutical representatives about drugs contradicted the information readily available to them and that 74% of physicians generally failed to recognise the inaccurate statements [7]. Medical practitioners felt that gifts of any form including drug samples from the industry were appropriate [2, 3, 8]. Studies have also found that promotions and interactions with the pharmaceutical representatives were associated with increased requests for drugs to be added to the existing formulary and increased prescription rates of the

sponsor's medication which could lead to irrational prescribing [9-13]. A study reported that 75% of their studied population felt that information given by pharmaceutical representatives is 'not trustworthy' while 47.6% felt that the information provided to them helps them to learn about new drugs and to keep them updated [14].

Upstream intervention such as policy may have a role to govern to reduce interactions such as restricting samples, promotional material and meetings that can influence prescribing behaviour [6, 15]. In Malaysia, the rule is clear. The Malaysian Anti-Corruption (MACC) Act 2009 stipulated that public service officials are strictly prohibited from accepting any gift with any amount including small value in the situation involving official dealing and they are only allowed to receive gifts without nominal value (no selling value) or gifts less than RM500.00 from a party in an unofficial capacity [16]. The MACC further issued Service Circular No. 3 of 1998 (SC3/1998), which elaborates on the definition of gifts and guides for public service officials [17].

To date, there are limited explorative studies looking at primary care practitioners (PCP) views and experiences on interactions with the pharmaceutical industry's representatives. The study which explored general practitioners' views was conducted in the United Kingdom, a high-income nation, which may not reflect the local context [18]. This study, therefore, aims to explore the views and experiences of PCP on interactions with the pharmaceutical industry's representatives in Malaysia, a middle-income nation.

## **MATERIALS AND METHODS**

### **Study design and settings**

A qualitative study design was employed to obtain an in-depth exploration of the views and experiences of PCP on interactions with the pharmaceutical industry's representatives. We used the Consolidated Criteria for Reporting Qualitative Studies (COREQ) to report this qualitative study [19]. Face-to-face in-depth interviews (IDI) and focus group discussions (FGD) were conducted in this study from October 2017 to March 2018.

FGDs were conducted among participants from public and academic settings, whereas IDIs were conducted among PCPs from private sectors as there were issues of time constraints to arrange FGDs among them.

### **Participants**

We included PCPs from the public, private and academic sectors in the Klang Valley, Malaysia who have been in contact with pharmaceutical representatives in the last five years and the most recent contact should be in the last three months. Out of a total of 37 PCPs invited, 32 were interested and consented to the interview.

### **Sampling**

We used a maximum variation sampling strategy to sample participants based on age, ethnicity, and place of practice. Purposive sampling method was used to select participants with specific characteristics to obtain a heterogeneous sample to understand in-depth PCP's views and experiences on interactions with the pharmaceutical industry's representative in Malaysia. Participants were recruited and interviewed until data saturation is reached, a point where no new or relevant information emerges.

### **Data collection**

The interviews are carried out by using semi-structured interview methods by the interviewers. The topic guide (Appendix 1) was developed based on modified Azjen's Theory of Planned Behaviour [20]. The Theory of Planned Behaviour explores the relationship between attitudes, normative beliefs, and perceived behaviour control and how these aspects affect the intentions to interact and shape primary care practitioners' interactions with the pharmaceutical industry's representatives [20]. The topic guide was refined by a pilot study among three primary care practitioners and data from the pilot were not included in the final analysis. The topic guide has a list of open-ended questions covering broad themes. Focus group discussions (FGD) lasted between 60 to 90 minutes while in-depth interviews lasted between 45 min – 1 hour. The interviews were conducted at participants' places of practice and were audio-recorded and transcribed verbatim by two professional transcribers using a coding system to keep participants' identity anonymous.

A total of six FGDs (27 PCPs) and five in-depth interviews (five PCP) were conducted. Data saturation was deemed to be achieved as there was no further new information emerged. The interviews were conducted by the research team members (LPY or HS) who were trained in qualitative interviewing and proficient in English and Bahasa Malaysia. Both LPY and HS are PCPs with postgraduate training in family medicine. The interviews were conducted in English and Malay languages. Before the interview, the interviewer introduced herself and explained the objectives and methods of the research to the participants. Participants read through the patient information sheet and were encouraged to ask questions. Written consent was taken, including permission for audio recording. During the interviews, participants were asked to describe their experiences interacting with the pharmaceutical industry's representative from the start of their careers until the present.

### **Data analysis**

Data analysis was an ongoing process which started during data collection and proceeded iteratively. The interviews were transcribed by NHH or WNAWI, checked by HS and read repeatedly to gain an overall

understanding. We used thematic analysis, as outlined by Braun and Clark (2019) [21], to identify, analyse and report themes within the data familiarisation with the data was done by reading, re-reading and noting down initial ideas (memoing). The transcripts were then coded independently by HS and PYL. Both researchers then met to discuss and compare the codes. HS then coded the remaining transcripts. After coding, the researchers (HS, PYL, SMC, and MM) sorted the codes into potential themes and collated the coded quotations within the identified themes. Iteratively, all researchers reviewed the themes by checking the coherence of the data within a theme and ascertained whether the themes reflected the meanings of the data as a whole. All researchers defined and refined the themes, iteratively, to reflect the overall story of the data analysis. We used NVivo Version 11 to manage and analyse the data [22]. Trustworthiness, and reflexivity.

As researchers, we have a large influence on how data is collected, shaped, and analysed. The degree of confidence in data, interpretation, and methods used to ensure the quality of a study is referred to as trustworthiness [23]. To assess the credibility, transferability, dependability, and conformability of our qualitative work, we used the Lincoln and Guba (1985, 1989) criteria [24, 25]. We outlined how we employed these criteria in our study in (Appendix 2). In this study, all researchers are primary care physicians and may have prior relationships with the study participants. We discussed, in the study strengths and limitations section, the potential bias of such relationships in this study and the strategy we use to minimise the impact.

### Ethical clearance

Ethical approvals were obtained from the Medical Research Ethics Committee (NMRR-16-886-30202), the Ministry of Health and Universiti Putra Malaysia's Ethics Committee for Research Involving Humans (FPSK(EXP16)P143) to conduct the study. Written informed consent to participate in in-depth interviews or focus group interviews was obtained from participants before the interviews.

### RESULTS

A total of 32 participants were interviewed in the study (Table 1). The mean age (standard deviation) of the participants was 40.3 (5.3). Out of 32 participants, 24 (75%) were women and 23 (73%) were of Malay ethnicity. Almost half of the PCPs were from the public sector (53%, n=17). We conducted six FGDs (3-5 participants in each group) among the PCPs from academic institutions and public sectors. There were five in-depth interviews among PCPs from the private sector.

Four themes emerged from the analysis related to the views and experiences of PCPs from three sectors

**Table 1: Characteristics of participants (n=32)**

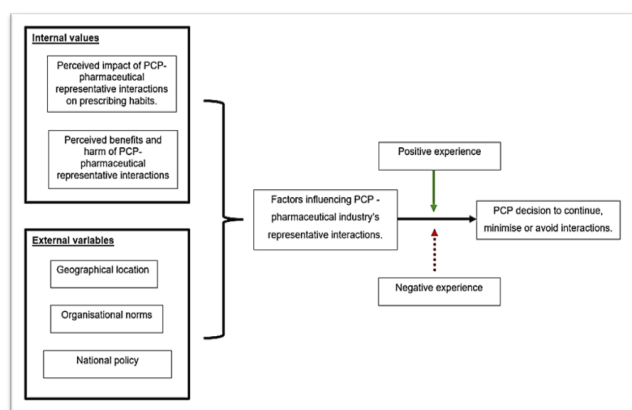
Characteristics	Numbers (%)
Age	
30-34	4 (13)
35-39	13 (41)
40-44	6 (19)
45-49	7 (22)
50-54	2 (6)
Gender	
Male	8 (25)
Female	24 (75)
Ethnicity	
Malay	23 (72)
Chinese	5 (16)
Indian	4 (13)
Places of practice	
Academic institution	10 (31)
Public	17 (53)
Private	5 (16)

(academic, public and private) on interactions with the pharmaceutical representatives and the factors influencing the trajectory of the interactions.

These were: (1) Perceived impact of interactions on prescribing habits, (2) Perceived benefit and harm of interactions, (3) Previous positive or negative encounters, (4) the role of geographical, organisational and policy. After identifying the different themes, we took a step further to investigate their relationships with one another. This involved examining commonalities or differences between the themes. For instance, we looked at how internal values and external variables influenced the interactions in PCP. In addition, we explored how one theme could potentially impact or influence another. For example, we examined how past experiences, both positive and negative, could shape future interactions in PCP. By analysing these relationships, we aimed to gain a deeper understanding of the various factors that contribute to the dynamics of the PCP – pharmaceutical industry's representative interactions. Figure 1 depicts the relationship between factors influencing PCPs' interactions with pharmaceutical representatives and the impact of their experiences on whether or not they continue to interact with them.

### Theme 1: Perceived impact of PCP-pharmaceutical representative interactions on prescribing habits

Participants reported varying perspectives on the impact of interactions with pharmaceutical representatives on prescribing habits as these meetings tend to be intertwined by the distribution of drug samples. The majority of participants in the academic and public sectors did not agree that their interactions with pharmaceutical representatives had a significant impact on their prescribing habits. Most participants reported that they



**Figure 1: Diagram of the relationship between factors influencing PCPs' interactions with pharmaceutical representatives and the impact of their experiences.**

would prescribe medications based on availability, the medication that could improve compliance, fewer side effects, and recommendations from guidelines.

*I feel [that] I'm not affected because of course, what [medications] I prescribed, depends on its availability at my setting [...]. If we don't have the medicine and I prescribed it to patients, but the patients have to buy it for themselves elsewhere. [It's] not fair to them, right? So, I won't consider such promoted medicines and yeah, I think I'm not that affected.*  
(P3, 46-year-old woman)

To a lesser extent, some participants cited knowledge and prior experience using certain medications as factors influencing their prescribing habits rather than interactions with pharmaceutical representatives. Private-sector participants were reportedly aware of the potential implications of such interactions as they may have the purchasing power to prescribe the promoted medications to their patients, especially if there was a patient demand for them. To maximise profit, there was also a pressure to buy in bulk, which could lead to over-prescription. An example was given by a participant;

*In term of the product promoted by the [drug] reps, I will buy the medications for my clinic if it is good. Buying in bulk makes it cheaper. But there's a danger of trying to finish up the medications before the expiry [date]. But if patients benefit from such good medications and there's a demand for them, I'll buy them. I'll be very selective though.*  
(P31, 38-year-old woman)

These decision-making roles were primarily reported by independently owned private practices, whereas those in grouped private practices described a limited decision-making role in purchasing medications; thus, their prescribing habits matched those of their academic and public counterparts.

*The headquarters ordered the medications. For me,*

*I just prescribed whatever was available, regardless of how many of them (the pharmaceutical industry representative) came and see me.*  
(P30, 36-year-old man)

However, participants from the academic and public sectors agreed to some extent that if they were a member of the organisation's drug committee meetings, they would be constantly approached by pharmaceutical representatives for drug promotions and samples. Some viewed their prescribing habits might have been unconsciously affected, but the quota system limits the number of promoted medications they could prescribe.

*So, when it's nearing the drug committee meeting, they become a bit pushy and said, "You can increase your quota of usage of this medication. Now only got this much. [...] The quota is five, now you have two doctors in the clinic, why don't you ask for an increase in quota?" So all that lah.[...]. But, since they are around all the time, although the quota is limited, the medication will always be at the back of your mind. Maybe unconsciously, their strategy affects our decision but the quota put some degree of restrictions – luckily!*  
(P17, 46-year-old woman)

**Theme 2: Perceived benefits and potential harm of PCP-pharmaceutical representative interactions**

Receiving gifts and sponsorships were identified as the main benefits of interacting with the pharmaceutical representative by the majority of the participants across all sectors. Personal opinions on whether they should receive such benefits remained divided. At one extreme, some asserted that accepting gifts and sponsorship was a form of corruption and according to a participant, a sinful act, based on one religious belief. Thus, PCPs should not accept any. Another participant viewed that receiving gifts and sponsorship from the industry requires the PCPs to reciprocate and do something in return. In this case, to prescribe the promoted medication.

*To me, because in a way, like it or not, even though we thought that we are not endorsing their product but by just accepting something from them, [regardless] big or small, in a way, you know people wouldn't just give you something without wanting something in return. So there's always that kind of expectation, of the need to reciprocate. It makes me feel uncomfortable about it, so better not to accept anything. No doctor should.*  
(P1, 44-year-old man)

Pens, sticky notes, and paper clips were deemed "fine" by most participants across all sectors, although some participants perceived that these "drug-branded" items, might mean PCP endorsed them. A participant viewed that these items were not for personal gain, but shared with others and that these gifts greatly helped in the smooth operation of the clinic.

*Pen, yes they (pharmaceutical representatives) do give that one, pen and sticky notes. I, we don't just take these for our own use. We put these at the counter and in the clinic rooms for everyone to use - to write notes and prescriptions. Let the nurses use the clips. It all goes back to patient care. So it's fine. (P19, 41-year-old woman)*

Participants did, however, agree that sponsorship for expensive trips was unethical and should be avoided. Others stated that drug talks during the lunch hour were beneficial for improving evidence-based knowledge and that the food provided was appropriate to compensate for the time PCPs spent listening to the talks. Some participants expressed concern that the pharmaceutical industry might provide PCPs with biased or misleading information. However, most participants reported that, based on their own experiences and post-graduate training aid in evaluating information provided by the pharmaceutical industry. Participants from the academic sector went on to suggest that skills for evaluating pharmaceutical information be taught in medical school.

*I understand in medical school, there are so many things to learn. But we now live in the evidence-based medicine era. So I think our medical undergraduates should at least be taught some basic biostatistics so they can appraise the information presented to them or at least be able to understand drug trial findings reported in journals. (P5, 47-year-old- woman)*

### **Theme 3: the role of geographical, organisational and policy**

Participants from all sectors had varying perspectives on the impact of geographical location and organisational culture in interactions with representatives from the pharmaceutical industry. Participants from all sectors reported that being in the central region increased the accessibility of their clinical practices to pharmaceutical representatives. A participant who had previously worked in a remote Malaysian region described how access to clinical practices differed for pharmaceutical representatives in such a setting, resulting in fewer encounters. She described her experience;

*[There was] not much meeting there, at the rural clinics. [Unlike] here in the Klang Valley - all clinics and doctors are accessible by drug reps (representatives). There, in the rural [area], I rarely see them, because they have difficulty coming to us. After all, the clinics were very far. So usually, I see them only once in a while, at the health district office. (P10, 36-year-old woman)*

Another factor that shaped the interactions with the pharmaceutical industry and its representatives is organisational norms, a viewpoint shared by most participants across all sectors. Some participants described how setting a boundary on interactions with the pharmaceutical industry by leaders and

organisations can ensure ethical interactions and that rules are followed by all members of an organisation. However, another participant stated that meeting with pharmaceutical representatives is almost "routine" in some organisations and that they are simply following the lead of their superiors. As a result, PCPs may be unable to gauge if their meetings are unethical and are influencing their responsibilities as practitioners.

*I think we've been so-called brought up in this medical field that way, others do it, especially the higher-ups, we just follow. So that's why we never see that there's anything wrong with the meetings or that the things we discussed during that meetings influence our judgement as clinicians. Yeah, it's just that sometimes it's like, I don't know, it's so routine or a norm that we can differentiate if it's good or bad. (P32, 47-year-old man)*

They were, however, unanimous in their views on how policy governing interactions between healthcare professionals and the pharmaceutical industry could ensure appropriate and ethical interaction. Some participants were aware of national policy regarding gifts, sponsorship, and pharmaceutical industry promotions, but the majority were not very clear about it. Participants who were aware felt that policy enforcement could be improved.

*The government already has a written rule saying that no promotion, no sponsorship or no whatever can be accepted by the government practitioners. That's the rule, it's already there. But perhaps, the implementation and enforcement of such a policy can be improved. (P7, 34-year-old woman)*

### **Theme 4: Previous positive or negative encounters**

Some participants described pharmaceutical representatives' non-biased and non-persuasive approach to sharing medication information as the key to fostering a trusting relationship with PCPs. These participants reported that they went on to contact pharmaceutical representatives with whom they have a good relationship to clarify patients' questions about halal certification, consult about the appropriate way to prescribe medications and report medication side effects.

*Those drug reps I've got a good relationship with, I go to them - I mean I reach out to them. Especially medications in capsules, the patient will ask me whether it is halal or not. Or the vaccines. I need to convince the patients to adhere to these medications or take the injections, so I asked the reps to help me find the statement to say that the drugs or the vaccine are halal. Because I tried to find it myself, but I couldn't. Or sometimes patients experience side-effect; I called the rep to inform them and they assist to make a formal report and we discussed the alternative drugs to prescribe. Or the new insulin,*

*how to prescribe and adjust during Ramadhan for example. So I think my experience with them is good, we work together in patient care.*  
(P12, 38-year-old woman)

Some participants reported receiving support from pharmaceutical representatives through regular CME programmes, such as bringing in speakers to deliver updates or providing allied health professionals for clinic health programmes, such as dietitians or diabetic educators.

*Sometimes they helped by calling in the company's diabetic educator to give talks to our patients. There was a time when we conducted Diabetes Camp for our patients, the drug reps contacted one of their dietitians, I think from their company too, to man one of the booths.*  
(P24, 34-year-old man)

However, participants reported a lack of professionalism in pharmaceutical representatives' approach to meeting PCPs and promoting medications, whether face-to-face or via text messages. Participants of this study who practised in busy settings described feeling uncomfortable and resentful of unscheduled visits by pharmaceutical representatives. Some participants felt compelled to meet those who were waiting outside their consultation room. Some of these participants reported that they would make excuses for not meeting with the pharmaceutical representative, while others reported avoiding it.

*I feel like I'm forced to see them, especially if they're waiting at my door. Sometimes I'm just tired after seeing patients all day or I'm just busy seeing the patient. So, I'll just nicely tell them that I'm busy. Some will respect such an explanation but some persisted by saying, 'I'll see you quickly after your last patient'. This is when I just avoid them.*  
(P16, 42-year-old woman)

Some participants revealed that pharmaceutical representatives got hold of their contact numbers through the drug talks attendance list and "abused" it to share and push advertisements about their drugs. Such experiences had a significant impact on future interactions. A participant described;

*My phone was rained with promotions, yes. Particular new drugs promo ..when, launching of a new, at new places. The reps did message saying that "Why don't you drop by at this place? We are having a launching of a drug in a hotel. Come with your friends who are doctors." Things like that. So, I do have an experience like that. So sometimes I feel they abused the privilege of having my phone numbers. I tend to minimise or if I can, avoid meeting such reps (representatives).*  
(P21, 43-year-old woman)

## DISCUSSION

### Principal results

In this study, we provided insights into the PCPs' perceptions of the impacts of interactions with the pharmaceutical representative on prescribing habits and the benefits and potential harms of the interactions. Our findings highlighted what PCPs viewed as positive and negative interactions with pharmaceutical representatives that influence their decision to continue, minimise, or avoid future interactions. Other factors that influence PCP-pharmaceutical representative interactions include geographical location, organisational norms and awareness of the national policy.

### Strengths and limitations.

To date, the findings of this study were among the first in Malaysia to gain insights into PCPs' views on the interactions with pharmaceutical representatives. We illustrated views from PCPs from three sectors; the academic institution, the public primary care service provider and the privately-owned primary care provider. We benefit from rich data from both focus group discussions and in-depth exploration. The spectrum of participants from different primary care sectors and the different interview methods provided a data source triangulation that enhanced and extended the understanding of PCP-pharmaceutical representative interactions in Malaysia. There are several limitations of this study. First, as participants were asked to reflect on past encounters with pharmaceutical representatives, there was a possibility for recollection bias. We, therefore, sought out people who had recently interacted with pharmaceutical representatives over the last three months in an effort to lessen this bias. Social desirability bias may manifest itself during focus group discussions around the topic of accepting gifts and sponsorships from the industry. We also acknowledged that some of the participants might have had prior relationships with the interviewers, which added to the complexity of having the aforementioned discussion. To minimise this bias, we paired the interviewer with the FGD or IDI that included the fewest people she knew, and if this pairing was not possible, we asked the participants if they were comfortable with the arrangement. They were free to leave if they wished to; although none of the participants did so. The interviewers were experienced qualitative researchers who were adept at navigating potentially sensitive discussions. We used strategies like using third-person perspectives to aid the interviewer to explore the participants' perspectives on sensitive issues [26]. The opinions we gleaned during the analysis were balanced, indicating that we managed, to some extent, to navigate the impact of social desirability bias when discussing the acceptance of gifts and sponsorship. Finally, the findings may only apply to this specific context in which the PCP interactions with the pharmaceutical industry

representatives took place and may not be generalisable to other contexts or populations. However, despite this limitation, the study's findings still provide valuable insights into the challenges that PCPs face when interacting with representatives from the pharmaceutical industry.

### Comparison with previous literature

Our study showed the range of impacts PCP-pharmaceutical representative interactions have on prescribing habits; the majority of participants did not agree that the interactions affect their prescribing. This notion is supported by evidence from the literature, albeit the motivation for these ideas has not been explored [1, 3]. In our setting, participants believed that despite ongoing encounters with pharmaceutical representatives, their prescribing was unaffected due to a lack of purchasing power. However, reports have suggested that PCP-pharmaceutical representative interactions have not only increased the requests for the addition of medications into the existing formulary but in some instances [1, 3, 5, 6, 13], may cause harm to patients due to irrational prescribing [9].

Some participants in this study indicated that information offered during drug talks or direct encounters was beneficial while others expressed concern about misleading or biased information that had been given to them and that they failed to recognise inaccurate statements. These perceptions and concerns were similar to those that have been reported in the literature [2, 7, 14]. A suggestion made by study participants was that education, particularly at the medical school level, might help with appraising information from the pharmaceutical industry and its representatives. There is currently no dedicated curriculum in Malaysian medical schools that addresses relations with the pharmaceutical industry. A systematic review of educational interventions found that the curricula focused on the relationship between medical practitioners and the pharmaceutical industry had inconsistent content, application, and evaluation methodology [27, 28]. This inconsistency prevented the meaningful synthesis of data, making it challenging to draw reliable conclusions from the available information [27, 28].

Gifts and sponsorships were reported by our study participants as the benefits of interacting with the pharmaceutical representatives. The motivation to continue communicating with pharmaceutical representatives may be directly influenced by gifts, sponsorship, [18] and the belief that these encounters increase knowledge of treatment options. The distribution of medicine samples during these encounters may indirectly influence prescribing behaviour [29]. While the Malaysian policy has clearly defined the types of gifts or sponsorship that are considered an offence if accepted [16, 17], our findings suggest that participants were unaware of such legislation, a similar finding in the

literature [18].

According to our findings, building trust between PCPs and the pharmaceutical representatives was achieved through collaborating for the good of the patient. Some participants, however, indicated that they had experienced displeasing interactions. Similar findings on the "uncomfortable" relationship between PCP and the pharmaceutical representatives were reported where PCPs adopted two different approaches to managing this discomfort; reluctantly meeting and not meeting the pharmaceutical representatives [18]. In our study, the participant reported minimising and avoiding interactions to prevent potentially another unpleasant encounter with the pharmaceutical representative. Geographical location and organisational norms are additional factors that were not mentioned in the literature, which can affect the dynamics between primary care physicians and pharmaceutical representatives. Economic disparity, which affects the development and access to infrastructures and fundamental services like health, notably in East Malaysia, may be linked to the inaccessibility of primary care facilities by pharmaceutical representatives in some areas [30]. The urge to adhere to organisational norms may be related to the hierarchical society in Malaysia, which places a strong focus on recognising differences in hierarchies [31].

### Recommendations for practice, policy and research

We outlined the recommendations for practice, policy and research based on the findings of this study in Table II.

**Table II Recommendations for practice, policy and research**

Recommendations for:
Clinical practice
Initiatives to improve awareness of policy governing ethical interactions between healthcare professionals, both in public and private sectors and the pharmaceutical industry may improve compliance with the existing policy.
Centralising interactions between the pharmaceutical industry and health sectors to promote any kind of drug may lessen the influence of direct interactions on PCPs' prescribing habits.
Policy
The policy on accepting gifts and sponsorship can be better implemented and enforced through multi-agency collaborations.
Research
Research involving stakeholders to develop and test medical curricula on ethical interactions which suited to local context may improve the relevance and uptake of such curricula by academic institutions

### CONCLUSION

Interaction with the pharmaceutical industry representative is a double-edged sword; while good information empowers primary care practitioners with

knowledge about medications to improve clinical management, misinformation leads to confusion and inappropriate decision-making and prescribing habits. Understanding how PCPs view their interactions with representatives from the pharmaceutical industry can aid multi-agency collaborations and establish locally tailored measures to ensure an ethical relationship between PCPs and the industry.

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