Bridging the Gap Between the Health Policymakers and Biomedical Researchers in Malaysia – A Qualitative Study

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ABSTRACT

This study set out to gather views and perspectives from biomedical researchers and policymakers in Malaysia on the impact of biomedical research findings on health policies in Malaysia. This was a qualitative study with semi-structured interviews conducted among 30 key opinion leaders who were experienced biomedical researchers, key officials from MOH who had been involved in policymaking, and public health program managers in Malaysia. The biomedical researchers were identified from the database of funded biomedical projects (2005-2015) in MOH, MOHE, and MOSTI while the policymakers were identified from the MOH official website. All the interview sessions were audio recorded and transcribed verbatim. The transcripts were subsequently analysed with a thematic analysis approach. From the results of the interviews, three themes emerged: (i) Ministry of Health Malaysia develops health policies and health programs based on evidence collected from local and global data and research findings. However, sometimes due to the limited studies done locally, the ministry has to adopt research data and findings from the global evidence; (ii) two-way communications between the policymakers and researchers are lacking, where the policymakers communicate their research needs and the researchers share their research findings with the policymakers; (iii) there should be a platform or nexus between researchers and policymakers to interact so that major research findings can be shared and interventions planned together. In conclusion, it was found that missing two-way communications between researchers and policymakers could lead to low uptake of local research findings into health policy. The missing nexus between the researchers and policymakers needs to be seriously looked into so that effective bridges could be built to fill in the communication gap to maximise the impact of research on health policymaking.

Keywords: Two-way communications; Bridge; Gap; Policymakers; Researchers.

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INTRODUCTION

Impact occurs when there are benefits resulting from the research (Greenhalgh, Raftery, Hanney, & Glover, 2016). Findings, evidence, and knowledge derived from biomedical research will only have an impact on patient care if it is translated and applied in clinical practice, policy, and administrative decision-making (Dhimal et al., 2017; Curran, Grimshaw, Hayden, & Campbell, 2011). The main challenges to biomedical research faced by the government are to promote effective knowledge transfer and collaborative research, create research findings that are valuable for knowledge translation, as well as incorporate the research-based evidence into clinical practice for general population health gains (Schwartz & Vilquin, 2003; Pollack Porter, Rutkow, & McGinty, 2018).

Policies, on the other hand, are principles, protocols, or guidelines set by governments in addressing urgent issues upon which a course of action is executed to tackle the problems (Walt & Gilson, 1994; Pollack Porter et al., 2018). Getting research into policy and practice (GRIPP) is the complex process of incorporating research evidence into policy decisions and actions (Uzochukwu et al., 2016). Research evidence play a paramount role in the formulation of evidence-informed healthcare policy (Ellen, Lavis, Horowitz, & Berglas, 2018) as it has been widely acknowledged that it could lead to maximum population health gains (Macintyre, 2003).

However, in practice, the uptake of research evidence into clinical practice and policymaking has remained slow and the gap between evidence and practice has remained substantially huge (van de Goor et al., 2017). Most of the time, the research reports or theses only end up accumulating dust on the bookshelves (Libunao, Latif, & Peter, 2013). Integration of research findings into the policymaking process has been recognised as a major challenge worldwide (Uzochukwu et al., 2016). Research findings suggest that the success rate of translations of research findings into healthcare policies has been low (Grande et al., 2014; Grimshaw et al., 2012; Grimshaw, Eccles, Lavis, Hill, & Squires, 2012). For instance, around 30-50% of patients in the United States of America and Europe failed to receive scientific evidence-informed clinical interventions (Gertler, 2000; Haines, Kuruvilla, & Borchert, 2004). It has also been observed by McGlynn and team that patients in the United States only received 55% of the recommended care (McGlynn et al., 2003). Also, only 40% of the primary care patients in the United Kingdom reportedly received care recommended by treatment guidelines (González-Block, Leyva, ATA, Loewe, & Alagón, 1989).

Besides, doing research is an expensive affair (Othman, 2004). Globally, billions of dollars are spent each year by stakeholders to conduct biomedical research (Grimshaw et al., 2012). Yet in most cases, the returns from research are lower than the money spent on each project (Othman, 2004) and successful implementation of effective health programs and services is still lacking (Grimshaw et al., 2012). It is thus not surprising to have growing interest among research funders and stakeholders in measuring the impact and returns from the funded research (Gomes & Stavropoulou, 2019).

By adopting the Payback Framework pioneered by Martin Buxton and Stephen Hanney from the Health Economics Research Group (HERG) at Brunel University, United Kingdom in 1996 (Buxton & Hanney, 1996), this qualitative study serves to look into the impact of biomedical research findings in the development of health policies in Malaysia by garnering views and opinions from both researchers and policymakers.

METHOD

Data for this study were collected by semi-structured in-depth interviews with key opinion leaders (KOLs) consisting of Malaysian biomedical researchers, key officials who had been involved in policymaking, and public health programme managers involved in planning and conducting public health programs in Malaysia. Purposive sampling was employed to deliberately recruit participants who were researchers or policymakers for the in-depth interviews based on the following inclusion criteria:

- Malaysian researchers who were able to speak English and Malay
- Biomedical researchers who had been involved in conducting biomedical research for at least the past 5 years
- Key officers from a local governmental ministry who had been involved in policymaking for at least the past 5 years
- Health managers involved in managing public health programmes in the MOH

The biomedical researchers were chosen based on the list of funded biomedical projects retrieved from the Ministry of Higher Education (MOHE) and the Ministry of Science, Technology, and Innovation (MOSTI). Key officers from the MOH were identified from the staff directory available on the MOH's official website. Similarly, the primary health programme managers were also identified from the official health programme websites. Based on the identified list and personnel, participants were randomly chosen to undergo interviews. It was planned to conduct the interview sessions until data saturation had been reached.

The researcher played the role of the primary instrument of data collection and analysis for the interview sessions. The interview sessions were conducted based on a pre-set interview protocol consisting of open-ended questions as follows:

- What are your perspectives on the impact of biomedical research findings on the development of healthcare policies in Malaysia?

- How do you think the impact and utilisation of biomedical research findings in Malaysia could be improved?

The interviews lasted, on average, between 45 and 60 minutes. All the sessions were conducted face-to-face in the English language. Invitations were sent via emails to the identified participants and appointments with consenting participants were subsequently arranged via phone calls or emails. All interviews were conducted in private and quiet rooms within the participants' working environments to ensure privacy. Throughout the interview sessions, only the researcher and the participant were present on a one-on-one basis with no outsiders around. Prior to each session, all participants were required to sign a consent form. Participation was on a voluntary basis and all the participants were kept anonymous.

All interview sessions were audio recorded with a digital recorder and subsequently transcribed verbatim by the researcher. The qualitative data were analysed with a thematic analysis approach and the transcripts were reviewed manually in Microsoft Excel worksheets to identify the emerging themes and patterns.
Thematic analysis is a method for analysing, organising, describing, and outlining the emerging themes from the collected data and followed by minimally organizing and describing the data set in rich detail (Boyatzis, 1998; Braun & Clarke, 2006). It is an approach to extract meanings from the gathered qualitative data in searching for repeated patterns of meanings (Boyatzis, 1998; Braun & Clarke, 2006; Tjandra, Osei, Ensor, & Omar, 2012).

Focusing on the identified themes and living patterns and behaviours (Aronson, 1995), this analysis method involves looking through and analysing repeatedly a data set to find recurring patterns and give meaning to them (Braun & Clarke, 2006). As the name implies, the ultimate objective of a thematic analysis is to finalise themes from the repeated patterns in the collected data which serve to answer the research questions or address certain issues. There are six phases involved in thematic analysis of qualitative data:

- Phase 1: Becoming familiar with the data
- Phase 2: Generating initial codes
- Phase 3: Searching for themes
- Phase 4: Reviewing themes
- Phase 5: Defining and naming themes
- Phase 6: Producing the report.

Ethical clearances for this study had been granted from the IMU Joint-Committee of Research and Ethics (IMUJC) with Project ID: IMU 380-2017 as well as National Medical Research Register (NMRR) with ID: NMRR-17-714-35337.

RESULTS

Data collection for the in-depth interviews was conducted from November 2018 through March 2019. Data saturation had been reached upon interviewing 30 participants and all the interview sessions were conducted on a one-on-one basis. All the researchers were from universities around Klang Valley and all the policymakers were from a local government ministry. They consisted of 10 males (33.3%) and 20 females (66.7%); aged between 41 to 76 years old. Besides, fifteen (15) participants (50.0%) were pure researchers, six (6), or 20.0% were both researchers and policymakers, six (6), or 20.0% were pure policymakers and the remaining three (3), or 10.0% were public health programme managers in Malaysia. The profiles of the 30 participants are summarised in Table 1:

Table 1: Profile of the 30 participants

Participant	Gender	Age	Profile	Institution
P1	Male	76	Researcher Former Director of a Research Institute of a private medical university Former Director of a medical research institute in Malaysia.	Private medical university
P2	Female	59	Researcher Deputy Director of Centre for Research Biotechnology for Agriculture (CEBAR) in a public university Deputy Vice Chancellor for Research and Innovation for a public university.	Public research university
P3	Male	41	Researcher	Public research university
P4	Male	41	Researcher	Public research university
P5	Female	45	Researcher	Private medical university
P6	Male	74	Researcher and former policymaker Former Director-General of Health Malaysia	Private medical university
P7	Male	68	Researcher and former policymaker Pro Vice-Chancellor of a private medical university Director of the Infectious Diseases Research Centre at a medical research institute	Private medical university
P8	Male	68	Policymaker Chairman of a Cardiovascular Hospital Pro-Chancellor of a private medical university	Local cardiovascular hospital
P9	Female	43	Researcher Former Clinical Epidemiologist at Clinical Research Centre (CRC).	A consultancy company providing clinical research training and development for the healthcare industry
P10	Male	60	Researcher and former policymaker Pro Vice Chancellor Researcher in a private medical university Director of a Research Institute in a private medical university Professor of Public Health in a private medical university Former Deputy Director General of Health Malaysia	Private medical university
P11	Female	56	Policymaker Director of a local clinical research centre	A local clinical research centre
P12	Male	62	Researcher and former policymaker Vice-Chancellor (CEO) of a private medical university.	Private medical university
P13	Male	46	Policymaker Public health physician leading in prevention and control of non-communicable diseases (NCDs) in Malaysia Deputy Director of a Ministry in Malaysia	Local government ministry Public research university
P14	Female	56	Researcher Deputy Vice-Chancellor of Research and Innovation in a public university.	
P15	Female	73	Researcher Professor in Internal Medicine of a private medical university	Private medical university

Participant	Gender	Age	Profile	Institution
P16	Male	46	Researcher Associate Dean for Research and Consultancy in a private medical university Head of a Research Centre of a private medical university in Malaysia.	Private medical university
P17	Female	67	Researcher and former policymaker Formerly involved in Nutrition Program Planning and Management in a government ministry of Malaysia.	Private medical university
P18	Female	42	Researcher Deputy Director (Research, Innovation and Industry and Community Partnerships) in a public university Senior Research Fellow.	Public research university
P19	Female	63	Researcher and former policymaker Former Director of Nutrition Division of a ministry in Malaysia.	Private medical university
P20	Female	62	Researcher and former policymaker Former Director of Family Health Development Division of a government ministry in Malaysia.	Private medical university
P21	Female	48	Researcher Chief Executive Officer and Head of research programme in a cancer research institute of Malaysia.	Cancer Research Institute in Malaysia
P22	Female	55	Researcher Professor in Immunology of a private university in Malaysia.	Private medical university
P23	Female	48	Researcher Head of a Research Centre in a public university in Malaysia Co-principal investigator in Malaysian Elders Longitudinal Research (MELoR) study.	Public research university
P24	Female	N/A	Researcher Associate Professor in Health Policy and Management Researcher in Prevent Elder Abuse and Neglect Initiatives (PEACE) and SCOPE (Smoking Cessation: Organizing, Planning and Execution) projects	Public research university
P25	Female	56	Policymaker Director at a division in research policy and planning division of a public health institute Research Officer and Head of a public health institute secretariat of a ministry in Malaysia.	A public health institute in Malaysia
P26	Female	64	Researcher and former policymaker Deputy Director-General of Health Malaysia (Research & Technical Support) Pioneer in the development of Health Systems Research and Quality Assurance Programme Former Board Member of the Alliance for Health Policy and Systems Research	Private medical university

Participant	Gender	Age	Profile	Institution
P27	Female	46	Researcher Principal Investigator (PI) a study in falls (MyFAIT) Lead PI in Arthritis (PISA) Co-PI in Longitudinal Research (MELoR) PI for the Life After Falls (LiAF), Obesity, Sarcopenia and Falls in Older Persons (OSFOP) Policymaker in the Planning and Coordinating Disease Control Programme in Malaysia	Public research university
P28	Female	46	Programme manager Senior Principal Assistant Director of a tobacco control unit	Local government ministry in Malaysia
P29	Female	54	Programme manager Chief Assistant Director of Family Health Development Division of a ministry Senior Principal Assistant Director of a vaccination programme in Malaysia.	Local government ministry in Malaysia
P30	Female	51	Programme manager Chief Assistant Director of Disease Control Division of a ministry in Malaysia Senior Principal Assistant Director	Local government ministry in Malaysia

From the interviews conducted, three themes and several sub-themes emerged as follows:

Theme 1: Evidence-based Policymaking
- **Sub-Theme 1:** Evidence-based Public Health Program
- **Sub-Theme 2**: Global Evidences

Theme 2: Missing Two-way Communications
- **Sub-Theme 1**: Working in Silos
- **Sub-Theme 2:** Lack of Mutual Understanding
- **Sub-theme 3:** Barriers in Reaching Out

Theme 3: Common Platform or Nexus
- **Sub-theme 1:** Researchers Taking Initiative
- **Sub-theme 2**: Summarising Key Findings
- **Sub-theme 3**: Social Media
- **Sub-theme 4:** Interpretation in Layman's Terms

Theme 1: Evidence-based Policymaking

All policymakers agreed that the Ministry of Health (MOH) Malaysia developed health policies and health programs based on evidence collected from local and global data as well as research findings. However, at times the ministry has to adopt research data and findings from the global evidence due to limited studies done locally and hence insufficient data.

A policymaker who was working in the ministry previously narrated and emphasised that it had always been the vision and philosophy of MOH Malaysia to formulate all health policies based on research evidence as follows:

> *"I think for example, in Ministry of Health, it's not the problem. Because it's already the philosophy of the ministry to develop program or policy based on evidence… these are the visions of the ministry actually to develop public health programmes, healthcare programmes, which is based on the evidence. Everything that you do, based on evidence. Every policy that you develop is based on evidence. Based on my experience in the Ministry of Health, when we are developing new programs or new*

> *overseas directions, we will always look for the evidence. So we will search for any publications for that matter… I strongly believe that it does in this country. Because…based of the posisi of evidence based policy development, by right any policy should be evidence-based. You cannot decide on a policy based on what you think. There must be some evidence while you are developing those policies, especially in health. So if there's not…there must be evidence for you to develop, why you must treat this patient with this drug? There must be evidence. You cannot just simply change the drug, isn't it?..."* (Participant 10)

Sub-theme 1: Evidence-based Public Health Program
The program manager for the Endgame Plan for Tobacco Control Policy also shared how local studies data and findings had been adopted in the development of the programme.

> *"So this justification needs data...For my sector we use the data. We use the data in fact er…for your information, when we come out with the National Strategic Plan, the endgame plan, we use the data from 1996, 2006, 2011, and 2015 of morbidity survey. So we based on that evidence…So we came out with one book. We call it as Evidence…Tobacco Control Evidence, Translating Evidence…Translating Policy from Evidence…so we combine or we so-called have like collations of all the research in the country on tobacco control per se, whether it's effective or not, and then from there we used that data to build up the policy."* (Participant 28)

Sub-theme 2: Global Evidence
Nevertheless, all the policymakers concurred that they could not solely depend on local data and research findings simply due to the lack of available findings. As a result, they had to resort to data or findings from studies abroad such as by the WHO for decision-making in health policy formulation. This could be best illustrated by the remarks from Participant 13 who was a policymaker as he voiced out his frustrations below:

> *"That's the thing. I don't have so how can I develop when there is hardly research that I can fit the requirement that I need? So a lot of time I need to source outside research in other countries because they do the same thing in Malaysia."* (Participant 13)

This was also affirmed by other participants who remarked that many health policies such as breastfeeding policies, baby-friendly hospitals, immunization policies, school health policies, non-communicable diseases, and vaccinations had adopted global evidence due to the lack of local data.

> *"And I think a lot of health policies looked at WHO, United Nations, UNICEF, what are their policies. These are based on data from other countries. So we tend to use that as a guide. You know breast feeding policies, baby-friendly hospitals, immunization policies, and school health policies. A lot of these, we don't have our own data, so they have to depend on these international agencies, which is also evidence-based."* (Participant 17)

> *"I think some of our primary care and population health policies have been used as benchmark for some of the developing countries. Because our primary care service in Malaysia is quite world class ya in terms of what we do. But when it comes to say health policy in terms of addressing non-communicable diseases, vaccination policy, I think we rely a lot on information coming from outside, and then doing local studies to validate that."* (Participant 12)

> *"I think they used more…this is based on my observation…international rather local. Local because local is very limited you know. That's one…I think that is one of the barriers there because there is not much literature on sometimes the harm reduction at that time, so we depend mostly on the international findings."* (Participant 30)

Theme 2: Missing Two-way Communications
In the interview, all participants concurred that two-way communications between the researchers and policymakers were lacking, where the policymakers were not communicating their research needs to the researchers and the researchers were not sharing their research findings with the policymakers. Some of the highlights from the participants are as follows:

> *"No communication between universities and the policy makers."* (Participant 28)

> *"But that's not happening. It's not a one-way process. It must be two-way process lah*." (Participant 22)

> *"I think there should be more communications. It's a two-way communication. It's not just the person who is doing the policy but also the researchers who are doing research."* (Participant 23)

Sub-theme 1: Working in Silos

Both researchers and policymakers were perceived to be working in their own silos resulting in a communication breakdown and little interaction between both parties. As a result, the policymakers were not communicating their research needs to the researchers and the researchers were not sharing their research findings with the policymakers. The major pitfall from this was that researchers were not aware of the research priority needs of the policymakers while the policymakers had no idea what research had been conducted by the researchers. A researcher voiced out her views as such:

> *"but right now the researcher is working in his own silo. The healthcare policymakers are in their own silos. So we don't know what you want."* (Participant 22)

The lack of communication between the researchers and policymakers were described by another researcher as living in their own worlds as such:

> *"Now that the policymakers say that researchers have their own world. Researchers say that policy-makers too arrogant. They don't want to use our research results. So two separate worlds. So how do we bring them together?"* (Participant 26)

Sub-theme 2: Lack of Mutual Understanding

A researcher who was formerly a policymaker working in the ministry shared her views on the lack of mutual understanding between the researchers and policymakers, particularly the constraints faced by the policymakers as follows:

> "When I was in the ministry, when I was working there…the barrier…it's like I live in my own research area. I do only training. I do service. I do policies only and service..... Then as a researcher, you will not say, erm I have this product, I give to the policymaker, they all throw it away. Because you didn't understand what were their constraints. Their constraints maybe they say this is not the right time. Ah we don't have the money now. Or maybe this area is still very vague. Or the policymaker will tell the researchers, why are they always doing all the same research all the time? I want people to look at this area. So you see the communication sometimes is missing. A lot of individuals are not talking to each other. It's just not their nature. So I think that has to be broken lah." (Participant 20)

Besides, a researcher also voiced out her struggles in understanding the research needs of policymakers due to the lack of communication as such:

> *"Yeah, but we don't know what is their problems. We do not know what is the issue that they have a problem with. If they tell us then maybe we can have the discussion and share. But if the researchers are doing their jobs by publishing the papers, so by reading, let's say you know I work on cancer, so let's say you have a problem in that area. Then oh this girl is working on cancer so maybe I should go and communicate and see what she thinks of this policy. But that's not happening. It's not a one-way process. It must be two-way process lah."* (Participant 22)

Similarly, another researcher also shared her frustrations for not being aware of the policymakers' research needs as such:

> *"I am now in academics. I have no knowledge about what is the immediate interest of the policy-makers, because I don't sit in their meeting. I don't talk with them. I don't have the opportunity to mingle with them every day."* (Participant 26)

Owing to the lack of communication, all the researchers shared that they felt sceptical whether the government would be interested in their research findings. Participant 22 was doubtful whether her research findings would cater to the government's research needs albeit she claimed to have a lot of exciting results.

> *"I have a lot of results but I do not know whether the government wants to know my results, 'cos it may not be the problem. It may not be their problem. I am finding something exciting. Because you see, we don't know what they want. We don't know what is their problem. We don't know what is their needs."* (Participant 22)

Sub-theme 3: Barriers to Reaching Out

Meanwhile, another researcher was frustrated as there seemed to be barriers hindering her to disseminate her research findings to the ministry and there were no channels or avenues for her to reach out to the ministry.

> *"Till today, I cannot disseminate my research findings to the ministry. There seems to be barriers that I don't know about. I can't get to them. Can I actually get to the Ministry of Health to tell them I have done research on fall prevention? No! I am not sure how to get to them. I have no this avenue whatsoever."* (Participant 27)

Theme 3: **Common Platform or Nexus**

In order to narrow the gap between the researchers and policymakers, there should be platforms or nexuses for both parties to interact so that research needs could be conveyed and research findings could be shared and subsequently interventions be planned together. A policymaker firmly emphasized the importance of a common platform as such:

> *"You need common platform where policy makers and researchers can interact so that you can do that better. You can try to align what the policymakers want and what the researchers can do."* (Participant 13)

In this study, most of the participants pointed out that the government should organise dialogue sessions with the universities or institutions which serve as a platform for them to share their research needs as well as for the researchers to share their research findings. This was highlighted by Participant 17 who was a researcher and also a policymaker as below:

> *"Government I think they should get sort of dialogue with the institutions, universities, and finding out what are the research, what they have done, what something that is significant that the government can use and all that, have a dialogue… … …and what is their direction? … …OK, this is our target. So how do you get to this target? Can you help in research to give information on this target or not? So there should be a dialogue lah."* (Participant 17)

Similarly, a researcher also strongly suggested a structured avenue should be in place for the policymakers to be in touch with the researchers and get direct access to their research findings.

> *"if there is an avenue for policymakers to hear the research findings directly, that would be useful …..there is no right now structured avenue for them to give their findings. So maybe if there is, whether there is a committee that regularly needs to listen to research findings that can impact or change the policy, then maybe that will be good."* (Participant 9)

A researcher strongly advocated a system on a national basis to be established by the government to serve as a platform or nexus connecting both researchers and policymakers. The system should be devised in such a way to facilitate collaborative efforts and networking between both parties allowing the researchers to share their major findings with the policymakers while the policymakers convey their research needs and requirements.

> *"There must be a system to connect. You cannot ministry on their own. There must be collaborative effort so that whatever the university has done then the research findings get advocated to the policy makers. Or what the policy makers want, then they will let the researchers know. And then the researchers do the job. So, there must be networking. There must be engagements. There must be collaborative efforts."* (Participant 19)

Besides, researchers in this study also strongly suggested public forums be organised for the researchers to share their research findings with the Ministry of Health (MOH) per se while the MOH could provide their feedback and suggestions to further plan certain interventions and future research projects. Remarks by two of the researchers are as follows:

> *"Otherwise who is going to know what are the findings and all that isn't it? Maybe to provide a forum for them to inform if they got very major findings. Isn't it? Otherwise, it's just left on the shelf and waiting for publication and waiting for people to search it out."* (Participant 15)

> *"By right there must be a system which, let's say you got some very significant findings which you think can help the Ministry of Health to control a certain thing…there must be a forum by which you know it is a deliberate sort of thing, say right, we have got this. Now let's tell you about this and this is our suggestion how you can make use of this data to plan certain interventions. Then after you have got your result, there must be a formal way by which you can then inform the result to the relevant people in the Ministry of Health. And then maybe together plan the intervention. And then that becomes the next research project."* (Participant 7)

Sub-theme 1: Researchers Taking Initiative

On the other hand, from the policymakers' point of view, the researchers should also take the initiative to approach the ministry and share their publications or research findings if they felt that their research would have implications on the development of the healthcare system. This was narrated by Participant 10 who was a retired policymaker as such:

> *"But I also believe that as a researcher, to people who do research, and if they feel that, their research may have implication on the development of the healthcare system, they should share those publications with the ministry. They can write to the Director General of Health for example. Sharing the information, I have published this particular publication. I think that is important in this. Please take note."* (Participant 10)

Sub-theme 2: Summarising Key Findings

Despite that publications in journal articles is the most commonly used means to disseminate research findings (Bennett et al., 2012), it has not been widely appreciated by the policymakers primarily due to their time constraints to read pages-long journal articles. Instead, policymakers would prefer to read short, precise, summative, direct-to-the-point research summaries such as the policy briefs or research highlights. Researchers are highly encouraged to package their research findings in a format that is reader-friendly to the policymakers (Uzochukwu et al., 2016). This has been highlighted by a policymaker as such:

> *"No. I don't have time to read. You need to come out with policy briefs. If you look at international organisations like WHO, UN, they all come out with policy briefs. One pager, two pager…"* (Participant 13).

Sub-theme 3: Social Media

On top of that, researchers are also encouraged to publicise their research findings via the social media platforms such as newspapers, magazines, television, radio broadcasts, WhatsApp messenger, Facebook, LinkedIn, and Instagram so that the knowledge and information can be disseminated to the public layman. This was captured by some of the participants in the following quotes:

> *"So make it visible is important. Even though not published, you can still use social media to help you. It's still a type of publish. OK. Number one this is from academical academic sharing. Second type is er…public sharing…You can get in write in a book. Yeah you can put in a book. And let another person to review it. Or you can put in a column. Write a column about your research findings. Put in a multimedia. Put in Facebook."* (Participant 4, researcher)

> *"You can actually disseminate your findings on media, on the print media newspapers, magazines or through articles on also…on television, radio. So it can reach out to more people. But if you want to reach the masses, it should be either in the magazines, in the newspapers, social media right, Facebook. People don't read papers but read the Facebook. They don't read books they only read Facebook."* (Participant 24, researcher)

> *"Social media most of the time. They will put it up on social media, 'cos I got networking with the other researchers. WhatsApp they put it up on their WhatsApp…In Malaysia, I think WhatsApp groups are one of the most popular way of distributing knowledge or information."* (Participant 13, policymaker)

Sub-theme 4: Interpretation in Layman's Terms

Besides, all the researchers also came to a consensus that it was crucial to translate it in simple layman's language to facilitate better understanding amongst the public layman. This was emphasized by some of the participants as follows:

> *"Translate your research into layman term. Put into…er…more easy to digest, newspaper, magazine, health magazine, er…and also…er and this type of translations actually need to have er…link it to the daily activities, daily human…er…related."* (Participant 4, researcher)

> *"if your target audience is the public, then you have to translate that in a manner that how effective it is, how sensitive it is, what is it it can do, what is it it will not do, and so forth. But it has to be done in a manner that is attractive to … people…when you write as a researcher for your publication, you write in the language of the publisher. And the one who can only understand is another researcher. Ordinary people cannot understand. Neither is policymakers. They cannot understand. Not that they don't understand, they don't have the time to sit down and think about what is it that you are talking about. So there is a need for that information to be translated in a language that is understood by the target audience…"* (Participant 26, researcher and policymaker)

DISCUSSION

The impact of research findings on health policy is best reflected by its contribution to the evidence base in the health policy (Lewison & Sullivan, 2008; Aldrich et al., 2003). As much as the MOH has been trying to abide by its principle and philosophy to develop and formulate health policy based on local and global research evidence, the setback was that most of the time global research evidence had to be adopted due to the unavailability of local findings. Past studies also revealed low utilisation of research findings in health policymaking (Kwan et al., 2007) (Hanney, Watt, Jones, & Metcalf, 2013; Donovan, Butler, Butt, Jones, & Hanney, 2014; Scott, Blasinsky, Dufour, Mandai, & Philogene, 2011; Cohen et al., 2015; Hennink & Stephenson, 2005).

As suggested by the views gathered from the policymakers in this study, they had challenges in getting the relevant research findings in their policymaking endeavours. This comes down to the fact that the local research that has been conducted does not cater to the research needs of the policymakers. There is a general consensus globally that this process has been hindered by a wide abyss between the researchers (knowledge producers) and policymakers (knowledge users) (Uneke, Ezeoha, Uro-Chukwu, Ezeonu, & Igboji, 2018; Ellen et al., 2018). As a result, most of the research conducted is of little relevance to real-life problems nor meets the research priorities while most of the policies are developed with little uptake of local research evidences (McKee, 2019).

One of the major contributing factors is the lack of communication, sharing, and mutual understanding between the researchers and policymakers leading to missed opportunities in using potentially useful research evidence in health policy (Campbell et al., 2009; Uzochukwu et al., 2016). Effective communication is the most fundamental ingredient we add to all human relationships including that between researchers and policymakers for successful collaborations (Cherney & Head, 2010; Feldman, Nadash, & Gursen, 2001; Guldin, 2003). Essentially, formulations of research evidence-informed health policies are based on the communications and decision-making between the researchers as knowledge producers and policymakers as knowledge users (Leshner, 2012). Personal two-way communication between researchers and policymakers was reported to be the most important facilitator of the uptake of research and good collaboration between both parties (Ellen et al., 2018).

However, as the results from the qualitative interviews point out, two-way communications between the researchers and policymakers are often found to be missing or not working effectively (Innvær, Vist, Trommald, & Oxman, 2002) and both parties were said to be working in their own silos. The absence of communications, coordination, research collaborations, exchanges of ideas, and mutual understandings between both parties was deemed as an impediment to the uptake of research in policymaking (Faso, 2014; Feldman et al., 2001; Uzochukwu et al., 2016; Campbell et al., 2009). Researchers struggled to share their research findings with the policymakers as there seemed to be barriers that hindered them from approaching the policymakers.

Meanwhile, the policymakers had challenges to send a message of their research needs across to the researchers. Perhaps, the relationships between the researchers and policymakers are best illustrated by the saying "Researchers are from Mars; Policymakers are from Venus" (Ellen et al., 2018). Researchers undergo different

pieces of training and embrace different objectives in carrying out their work compared to the policymakers (Feldman et al., 2001). Hence, significant gaps prevail between researchers and policymakers resulting in both operating under different constraints and concerns which hinder their collaborations and interactions (Gaudreau & Saner, 2014). While the researchers have been working hard to feed research knowledge into policy development and decision-making, the research findings may not be successfully translated into policymaking (Gaudreau & Saner, 2014).

Lack of communication and networking amongst the researchers and policymakers will result in a negative impact on the effective utilisation of research evidence in policymaking as effective communication and networking could help the researchers to have a better glimpse of the research priorities among the policymakers and plan their research activities correspondingly (Gaudreau & Saner, 2014).

Many a time, the researchers actually saw the potential and utility of their research findings to be incorporated into Malaysian health policies. Nevertheless, they failed to reach out to the policymakers because there was no platform or channel for them to share their findings with the policymakers. Besides, the researchers were often uncertain about how best to identify the appropriate individuals to approach (Ali, Leman, Sunar, & Ahmad, 2017). In fact, researchers often felt that policymakers should utilise more research evidence in policymaking (Campbell et al., 2009). However, the researchers simply had no idea how to approach the ministries and share their research findings as voiced out by the researchers in the in-depth interviews.

The in-depth interviews in this study garnered insightful views from both the researchers and policymakers. Researchers actually valued input from policymakers into their research but were facing difficulty in identifying the appropriate persons and reaching out to share their findings. Whereas the policymakers were having issues finding the expertise they needed although they were aware that researchers could offer them useful advice as well as share their research priority needs with the researchers (Campbell et al., 2009). Researchers, therefore, ended up working on the research that they saw as important and producing output that they saw as relevant (Campbell et al., 2009). The truth was the research conducted did not match the policymakers' needs nor produce the research data or findings sought by the policymakers for policymaking (Shroff et al., 2015). Consequently, relevant and appropriate data and findings to be utilised for policymaking were lacking. This has been a critical issue affecting uptake as the research conducted failed to provide solutions to the problems faced by the policymakers (Ellen, Lavis, Sharon, & Shemer, 2014).

Nevertheless, in the Malaysian context, it is noteworthy that policymaking is generally top-down and centralised whereby policy decisions are made at the Ministry level with commissioned research and international research evidence as the main source of data (Court & Young, 2006). Also, policy is formulated based on the requirement of the system, its structure, and the future demand of the nation (Libunao et al., 2013). The dynamic of the policymaking process in Malaysia is shaped by three major factors, namely the governmental structure representing the system, the processes undertaken by the civil service in making policy, and the governance closely connected with the wider public (Azman, 1999). However, in contrast to the old days when Malaysia's policymaking was hindered largely by executive or political dominance, public opinion and participation have nowadays permeated the policymaking process and played a vital role (Arifin & Othman, 2018).

Implications of the Study

The availability of well-established research institutions with sufficient human and financial resources coupled with systematic mechanisms for good inter-disciplinary and inter-institutional collaborations is crucial to sustaining a research ecosystem (Arifin & Othman, 2018). In line with this, the National Institutes of Health (NIH) has been established since the development of the 7th Malaysia Plan by the Ministry of Health (MOH) Malaysia. Designed with a mechanism to unite five institutions under a big umbrella, it is anticipated that NIH could strengthen the research component of the MOH from the identification of research priorities and research questions to health policy formulation, health management, and health promotion, as well as the development of new tools for disease diagnosis and treatments. The five institutions under NIH are the Institute for Medical Research (IMR), the Public Health Institute (PHI), the Institute of Health Management (IHM), the Institute of Health Promotion (IHP), and the Network of Clinical Research Centres (CRC).

Better coordination and collaborations amongst the institutions under the big roof of NIH could reap the benefits of prioritization of research activities, a balanced allocation of resources, integration of different skills by a team approach, optimised utilisation of research findings in policymaking, as well as greater interactions between researchers, policymakers, and healthcare managers both local and abroad (Merican, 1999). Nevertheless, the observed missing two-way communication between researchers and policymakers suggests that the roles and

objectives of NIH in research implementation have not been fully fulfilled and further improvements are warranted.

Effective communications between researchers and policymakers could be improved by building nexuses or bridging systems connecting the two parties (Merican, 1999). Research could contribute better to policymaking if researchers and policymakers share common networks, trust each other, and communicate effectively (Campbell et al., 2009). More linkages between the ministries and universities should be established to have more opportunities to work together for more informed decision-making (Court & Young, 2006). This could be achieved by organising more local and international research forums, conferences, workshops, and regular formal meetings as common platforms where the researchers and policymakers could gather together (Libunao et al., 2013). These events could effectively serve as focal points between policymakers and researchers to share research findings as well as highlight and identify priority research needs and policy issues (Ellen et al., 2014). Perhaps setting up of Policymaker-Researcher Committees with representatives from the ministry, universities, and research institutes could be one of the ways (McBride et al., 2008). Also, policy retreats to be attended by researchers, health managers, and policymakers could be convened annually to serve as an avenue for research collaborations and networking (Uzochukwu et al., 2016).

Aside from the traditional means of disseminating research findings in peer-reviewed publications and conference presentations, an alternative delivery mode would be via electronic communications. A single electronic portal or website sending electronic mail bulletins or announcements with links to the published articles to the policymakers could be created to help research news travel faster (Uzochukwu et al., 2016). Easy access to quarterly reports or newsletters containing summaries of results could also be achieved with the establishment of professional health organisations and clearinghouses (Ellen et al., 2014; McBride et al., 2008; Orton, Lloyd-Williams, Taylor-Robinson, O'Flaherty, & Capewell, 2011).

Researchers should also bear in mind to engage the policymakers and stakeholders from the onset before they disembark on planning a new research project to establish a good rapport and working relationship as well as to enhance the credibility of the research (Ellen et al., 2014; McBride et al., 2008; Orton et al., 2011). Researchers should take the initiatives to approach the prospective policymakers and stakeholders to seek their advice in defining research proposals as well as in the decision-making processes of the project conceptualisation, design, and implementation (Davis & Howden-Chapman, 1996; McBride et al., 2008; Uzochukwu et al., 2016; Wooding et al., 2007). That is not all. Active contact should be maintained throughout the project period by scheduling bimonthly or monthly face-to-face meetings for updates on the process (Campbell et al., 2009; Hennink & Stephenson, 2005).

In addition, it is also highly recommended that the researchers package their research findings highlighting key conclusions and outcomes relevant to policy discussions in policy briefs, rapid reviews, short abstracts, or summary fact sheets (Uzochukwu et al., 2016). Policymakers would prefer short, brief, concise, direct-to-the-point, summative information which is more reader-friendly in contrast to lengthy and jargon-filled academic publications (Campbell et al., 2009; Ellen et al., 2018; McBride et al., 2008). It would be a struggle for the policymakers to read lengthy articles due to time constraints and busy schedules (Ellen et al., 2018; Feldman et al., 2001; McBride et al., 2008; Ritter, 2009; Uzochukwu et al., 2016).

In addition, publishing research findings via the social media platforms such as Facebook, Instagram, WhatsApp, YouTube Channel, and Twitter is an effective means of disseminating research knowledge and information as the public could easily have access to it. Nevertheless, it should be done effectively by translating the results in layman's terms to facilitate better understanding amongst the public layman. It has been pointed out that researchers are often penning down their findings in texts incomprehensible particularly to those outside their disciplines (McBride et al., 2008) which has led to their works not being read.

CONCLUSION AND RECOMMENDATION

One of the enabling factors of integrating research evidence into policymaking is close working relationships between the researchers and policymakers. However, two-way communications between the two parties are often missing as researchers are not sharing their hard work with the policymakers while the policymakers are not conveying their research priority needs to the researchers. Hence, the missing nexus between the researchers and policymakers needs to be seriously looked into and effective bridges should be built to fill in the communication gap. This could be attained by having more common platforms such as setting up a system on a national basis by

the government as well as organising public research forums, conferences, workshops, and regular formal meetings for researchers and policymakers to interact. On the other hand, the researchers should take the initiative to approach the policymakers, summarise their key findings in brief and direct-to-the-point formats, as well as publicise their research findings on social media platforms using layman's terms.

DECLARATION STATEMENT

The lead author* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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CONFLICT OF INTEREST

The authors declare no self-interest in the study conducted.

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