JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Editorial Open Access

Why clinicians should be involved in research?

Featuring:

Editor-in-chief
Prof Dr Goh Bak Leong
B.Med.Sc(UKM), MD, MRCP(UK), FRCP(Glasg), FAMM(Mal)
Senior Consultant Nephrologist
Head, Department of Nephrology, Serdang Hospital
Head, Clinical Research Centre, Serdang Hospital

Abstract

Research is about discovering new knowledge that could lead to changes in treatment, policies or care. Hence, participating in research allows clinicians to evaluate their practice more objectively and to be involved in advancing their discipline. Moreover, by appraising the evidence and thinking critically about a situation makes one a better clinician.

In this article, we have a rare opportunity to interview our Editor-In-Chief of our journal at to what actually sparkled his initial interest in research and how his passion in research blossom over the years.

Prof. Dr. Goh is the Head and Senior Consultant Nephrologist in Serdang Hospital. He became a member of the Royal College of Physicians in United Kingdom MRCP(UK) in 1996 and obtained his further training as Renal Fellow at Monash Medical School, Melbourne, Australia. He was awarded the Fellowship of Royal College of Physicians and Surgeons in 2002 and Fellowship of Academy of Medicine of Malaysia in 2012.

Prof. Dr. Goh has published numerous original articles in international peer-reviewed journals in the field of general nephrology, dialysis and transplantation. He has special interests in peritoneal dialysis (PD) and CKD-MBD and has numerous publications in PD-related articles in Seminars in Dialysis and Peritoneal Dialysis International. Being an ardent speaker in his expertise, he is a frequently sought-after invited speaker and has presented numerous scientific papers in international meetings and congresses. He is also involved in many Registries and Clinical Practice Guidelines and sits in many panels/committees/ advisory boards as well as professional societies at both national and international levels. Currently, he is the Past President of the Malaysian Society of Nephrology (MSN), a member of International Society for Peritoneal Dialysis (ISPD) Working Party on PD Access Guidelines and Asia Pacific Renal Advisory Board member. He is also the Editor of National Renal Registry and was appointed as an Adjunct Professor. He is a member of Asia Pacific Congress of Nephrology 2018 & 2020, 23rd International Conference on AKI CRRT 2018, and International Society of Nephrology Global Health Summit.

JCTN (2019) Volume 1 : Article no: 3

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Open Access

Q & A

1. How did you first get involved in clinical research?

I first got involved in doing research way back in Penang Hospital in the early days as a trainee, long before Clinical Research Center (CRC) was established. The first time I was properly exposed to the conduct of a clinical trial was in Melbourne, Australia when I was doing my fellowship training at the Monash University. It was in 1998 when my first abstract was accepted in an international meeting and eventually published.

When I returned from Melbourne, it was actually the time when CRC started to grow. In fact, I was fortunate enough to be the first batch to attend the Good Clinical Practice (GCP) course conducted by CRC.

My primary interest is still investigator-initiated research (IIR), as it can be seen in most of the works that I have published. When Clinical Research Malaysia (CRM) was first conceptualized in 2010, I felt that there was a need to support it. After being involved in many years of research and publication, I find that whenever I encourage junior doctors to do research, the usual excuses will be inadequate time and resources etc, hence, not possible. So, when CRM formally brought in industrial-sponsored research (ISR), I felt that it was a good direction because ISR would be able to bring in the know-how including resources and that the junior doctors can learn from it, and then be on their own to do the IIR later.

2. How have clinical trials change your practice and management of patient care?

I always believe that a good investigator, a good researcher and a good scientist will always be a good clinician. The first thing is to be a good investigator as they are always very disciplined and paying attention to details which are also the important attributes and traits to be a good clinician.

The second thing is curiosity. A good researcher is usually one who is very curious, inquisitive and also observant which are important traits of a good clinician as well.

As a good clinician, our job is mainly to solve patient's problems. I always remind my junior colleagues that same diseases can present differently, and different diseases can present the same way. It is very important for one to be aware of that. When one observes certain anomaly or what I call an outlier, to those good clinicians who are very observant, they will start to ask very simple questions. Why did the patient present in this way? Why now and not before? Or why is it that the patient is given the right diagnosis and despite appropriate treatment did not respond as expected? A clinician has to ask these questions which are equally important as a researcher. Therefore, a good researcher would usually become a good clinician.

For example, in my own field, I have many interest areas in research but sometimes due to circumstances, we have to focus in one key area. My niche is in peritoneal dialysis (PD) and I am a key opinion leader (KOL) in peritoneal dialysis in the Asia Pacific region. This is actually circumstantial. What happened was that many years ago, I observed that PD has always been perceived as second class, inferior technology for patients with end stage renal disease compared to haemodialysis. Based on that observation, I started to ask a very simple question. Why should it be this way?

PD in actual fact has many good scientific reasons to be at least equal, if not better than haemodialysis treatment, but still the pick-up rate is very low. Based on this observation, we started a series of soul searching, root cause analysis and audit, and started a series of research and investigations. We then realized that the most important factor that hindered the utilization of PD was related to the access for dialysis, the PD catheter which led us to a series of research and publications in this area.

We first demonstrated that if the PD catheter insertion was done by nephrologists with interest in PD, there would be many positive results, not only the outcome would be better, but the response time would also improve. As a result, this finding changed the entire concept of PD perceived by patients.

We initially started the PD catheter insertion in one centre, subsequently we were able to demonstrate that when this same process was replicated in other centres, it produced similar positive impact of pick-up rate in PD. This became our second paper. The third paper was on how to train the operator and we introduced the concept of cumulative sum (CUSUM) chart.

JCTN (2019) Volume 1 : Article no: 3

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Open Access

The result of these series of publications has translated into the Clinical Practice Guideline (CPG) on PD catheter insertion by International Society of Peritoneal Dialysis. This has shown that results of research can influence our clinical practice and also translate into good patient care.

3. What one word best describes your career as a clinical researcher/investigator? Why?

Sincerity.

If I would have to choose just one word to describe a good researcher, I think sincerity is the key. Usually the person who is sincere in carrying out their work would also be a highly- disciplined and honest character. For a good researcher, research integrity is an aspect of moral character. It involves above all, commitment to intellectual honesty and responsibility for a range of practices that characterise responsible research conduct.

However, sincerity is very difficult to measure and not measurable.

To me, one important attribute for a good worker, if I were to choose just one which is measurable, will always be punctuality which does not only mean coming to work on time but also one who respects deadlines and not ask for extension. These are attributes of a good and disciplined worker.

Being punctual comes together with many other positive attributes. They are usually very organised, responsible, disciplined and always deliver what they promised on time which also mean they are sincere in their work and are professional.

4. What would be your advice to aspiring clinical researchers?

Research belongs to the field of creative industry. A lot of people think that by doing research, they would become an overnight expert or an overnight celebrity, but unfortunately, research is not like this. For a start, you must have a passion or at least an interest in it. A good researcher comes with certain good attributes, they are disciplined, inquisitive and observant. So, to be a good researcher, you should be motivated by your curiosity, as well as the urge and sincere need to find an explanation to your observation and curiosity. That should be the primary motivation of research, not because of anything else, not because of fame or money. If your aim is about fame and money, it is better to indulge yourself in the reality shows and competitions where you may become sensational overnight.

Research is a very long journey. Just a simple illustration, to come out with a research idea after a good observation would take probably no less than 6 months for you to get a protocol ready. If your protocol is well written, not requiring any amendment and you manage to get the necessary authorities' approval, you then start the investigator's meeting, start recruiting patients, collecting data, etcetera, the recruitment period itself would take no less than 12 months up to 18 months, or even longer. This will then be followed by data analysis and report which would also take no less than 6 months. So, in total, it would take you about 2½ years, and that is provided that your research runs smoothly with no hiccups. For you to produce your first manuscript which would probably take another 6 months down the line, or longer which comes to a total of no less than 3 years. If, let us say the manuscript is so well written and gets accepted immediately without any correction by a peer-reviewed journal and accepted for publication which would require another 6 months, that makes up to 3.5 years. This long process is not uncommon. In fact, most of the time, our manuscripts would be revised a couple of times, if not rejected by a few journals. It is not uncommon that from the manuscript stage until it is finally accepted for publication, it could take more than 12 months, or even longer. Therefore, for only one good research, it takes about 3 to 4 years to complete. And you will never become well known with just one publication, because once a paper is published, that paper will be evaluated by your fellow colleagues. So, for them to cite your work or make reference to your work, it would need another couple of years.

So as a good researcher, you should be motivated by your sincere urge to find the truth. The fuel is your curiosity, the tool is your observation. Eventually, when your work gets recognised, that recognition should be the by-product, bonus, and should not be your primary motivation.

JCTN (2019) Volume 1 : Article no: 3

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Open Access

5. What type of breakthroughs in nephrology do you wish to see in the next 5 to 10 years?

There are many breakthroughs in nephrology, and I will only discuss in 3 areas. For example, the understanding of acute insult to the kidney has evolved leaps and bounds in the last decade. There are definitely more markers as well as algorithms that enable us to predict an acute insult to the kidney which allows us to intervene much earlier to prevent it from permanent damage and provide the patients with the best chance of recovery.

There are also several advancements in understanding of the final pathway of kidney injury, which is fibrosis. Fibrosis is associated with many disease processes, but the most important one is aging. With the understanding in those areas, we will be able to not only prevent but reverse fibrosis, therefore allow the injured kidney an opportunity to regenerate and recover itself. For example, studies had demonstrated that restoration of Nox4-Nrf2 redox balance may be a therapeutic strategy in age-associated fibrotic disorders, potentially able to resolve persistent fibrosis or even reverse its progression.

There are also advances in bio-artificial kidney, and the advancement in this field is so amazing that scientists already started experimenting on printing kidney, and found to function in the experimental model. This may sound too incredible but would eventually replace the need for organ donation. If we can start printing our own kidney, it would break through the need of organ donor, or xeno-transplantation, which the scientific communities in this field have been struggling for the past half century to look for the Holy Grail. That would entirely revolutionize the management of end stage renal disease by giving one another new organ.

So, these are some of the breakthroughs in nephrology that I wish to see, with some are almost there, and some probably happening in next 5 to 10 years, some obviously will take much longer still.