**REFLECTIONS**

**The** NUHS Research Residency Programme (RRP) is a parallel track alongside existing clinical training programmes to enable platforms that support residents to pursue research. Having joined the RRP in 2016, I have come to appreciate the many opportunities which we have been given; including the close mentorship, support, camaraderie and various research projects available.

Undeniably, we are surrounded by an evolving era of Evidence-based Medicine (EBM)! It is interesting that textbooks can be rendered outdated; treatment and management guidelines can evolve and this gives us new impetus to constantly keep up. It is important to be cognizant of avenues where we can improve our knowledge and further appreciate the medical literature – and that which was what prompted me to attend the 14th Asia Pacific Medical Education Conference (APMEC).

The recent APMEC was held from 11 to 15 January 2017 at the National University of Singapore, Singapore. Along with their theme "From Globalisation of Education to Global Healthcare – Trends ● Issues ● Priorities ● Strategies (TIPS)", the aim of the conference was to share experiences as educators, and learn from experts in medical and healthcare professional education some of the latest ideas, and best practices adopted internationally. Some interesting themes which struck me included the implementation and evaluation of peer-assisted learning, selection methods for assessing non-academic attributes in medical education, the incorporation of a behavioural approach towards the teaching of ethics across disciplines and the various challenges in globalization of medical education. It was a wide variety of plenary sessions and insightful topics which my colleagues and myself enjoyed indeed!

In addition to attending the conference lectures, I also signed up for the workshop by Dr. Shen Liang entitled “Using SPSS for Data Analysis”. This was a full-day course with a group of 30 participants, led by an expert biostatistician. We began with a short discussion on proper form design and data collection; and I came to appreciate the importance of simply designing an effective questionnaire to facilitate easy data analysis subsequently. Furthermore, the course succinctly summarized relevant descriptive statistics and techniques for quantitative & qualitative outcomes using univariate and multivariate analyses. This proved particularly important for my ongoing research projects, as well as helping in results interpretation when reading medical journals. We were given hands-on practice as well as clinical
scenarios to work on throughout the course duration. Instruction handouts were also provided to aid us in future practice in a step-by-step guide. I was really grateful for the opportunity to be able to attend the SPSS workshop which I learnt a lot from.

At the very heart of it, research and EBM are truly integral aspects of our lives. It is wonderful that we get to work and interact with like-minded people— including our core faculty, programme coordinator and fellow residents who pursue the same passion and interests in this programme. 😊

**PARACHUTE**

**IF YOU JUMP OUT OF A PLANE, DO YOU NEED A PARACHUTE?**

**THE PURSUIT OF EVIDENCE-BASED MEDICINE**

In the broadest sense, evidence-based medicine is the application of scientific method to decision-making in healthcare. I am not sure that Archie Cochrane, back in 1972, had any idea of the impact he would have when he published *Effectiveness and Efficiency*, which described the lack of controlled trials supporting many practices that had previously been assumed to be effective (1). Years later, the Cochrane Collaboration is the logical extension of that early and pioneering work!

Obviously, there are many other individuals that contributed over the years but another individual that comes to my mind when thinking about evidence-based medicine is David Sackett. In 1996, he and colleagues clarified the definition of evidence-based medicine as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. ... [It] means integrating individual clinical expertise with the best available external clinical evidence from systematic research" (2). Sackett went onto found the first department of clinical epidemiology in Canada at McMaster University, and the Oxford Centre for Evidence-Based Medicine.

In our role as clinical researchers, what are we actually trying to achieve? Ideally, I imagine we are trying to answer specific clinical questions, add to the evidence base, such that we can make the most informed decisions for our patients’ management and care. However, in the hunt for p values, study design, bias assessments and grades of evidence, it can be very hard to see the wood from the trees.

So, to the original question posed, if you jump out of a plane, do you need a parachute? G Smith et al attempted to answer this question in the most evidence-based way possible in a study entitled “Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials“ (3). Their conclusions may surprise you!
“As with many interventions intended to prevent ill health, the effectiveness of parachutes has not been subjected to rigorous evaluation by using randomised controlled trials. Advocates of evidence based medicine have criticised the adoption of interventions evaluated by using only observational data. We think that everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double blind, randomised, placebo controlled, crossover trial of the parachute.”

Whilst written for the Christmas edition of the British Medical Journal and clearly deliberately facetious, there is however an important message for us all. Evidence-based medicine is merely a tool in our armamentarium for treating patients. It is arguably the cornerstone of modern medical practice and one of our most important tools, but a tool nonetheless it is. Lauding the randomised controlled trial as the Gospel truth and anything less as heresy misses the point. I strongly recommend that you intelligently question everything that we do and insist on the highest level of evidence for your practice. However, herein lies the cyclical paradox. Challenge the constantly evolving evidence base but if you find a gap, try and fill it as best you can even if that does mean yet another randomised controlled trial!

Dr. Andrew Choong (Core Faculty, RRP)

References

Updates to the Regulatory Controls for Clinical Trials

From 1st November 2016, a revised regulatory framework for clinical trials has been implemented. Major changes pertain to the following areas:

• Application procedures to the Health Sciences Authority (HSA)
• Reporting requirements to HSA
• Informed consent
• Clinical research materials
• Labelling requirements for therapeutic products and medicinal products

For more information: https://www.research.nhg.com.sg/wps/wcm/connect/romp/nhgromp/06+conducting+research/regulatory+submission+requirements

In addition, with effect from 1st November 2016, the Singapore Guideline for Good Clinical Practice (SGGCP) will no longer be in use, and will be replaced by the International Conference on Harmonisation Guideline for Good Clinical Practice (ICH GCP). All clinical trials must be conducted in accordance with the revised regulations.

Clinical Stroke Scales in Predicting Large Vessel Occlusion – A Meta-analysis
(International Stroke Conference 2017, Houston, TX)

Dr. Kong Wan Yee
(R4, Neurology and Research Residency)
Funding Opportunities
Click on link for more information on grant call

5 Mar 2017 NUHS Junior Pitch for Funds
Eligibility: Junior Residents
Award: S$2,000 – S$5,000

7 March 2017 Venerable Yen Pei-NKF Research Fund 16th Grant Call
Eligibility: PhD and/or MBBS/MD. PI must be a Singaporean/S’pore PR
Award: S$10,000

20 March 2017 2nd Traditional Chinese Medicine Research Grant Call (TCMRG)
Eligibility: All PIs from local public healthcare or academic institutions
Award: S$750,000 over 3 years

24 Apr – 29 May ExxonMobil-NUS Research Fellowship for Clinicians
Eligibility: Registrars, Associate Consultants, Consultants
Award: 60% protected time, S$20,000 consumables

April 2017
NMRC Clinician Scientist Award (CSA)
NMRC Clinician-Scientist Individual Research Grant (CS-IRG)
NMRC Open Fund – Individual Research Grant (IRG)
NMRC Open Fund – Individual Research Grant (OF-IRG)
NMRC Open Fund – Young Individual Research Grant (OF-YIRG)

Remember to arrange your clinical roster for the following training dates:
1 April 17
6 May 17
3 June 17
1 July 17
12 August 17
9 September 17
7 October 17
4 November 17
2 December 17

Course ASSESSMENT

Write an essay (1000-1500 words) on hypothesis testing in clinical research.
Include in your essay (not limited to) the following points:
(i) Errors in hypothesis testing
(ii) The relationship between hypothesis testing and the p-value
(iii) The role of chance
(iv) Sample size calculation
(v) Limitations of hypothesis testing

Deadline: 7 April 2017
Note 1: It is recommended to use your intended research study as an example to address the listed points
Note 2: Your work will be checked for plagiarism upon submission to Venetia