KERATAN AKHBAR

NAMA AKHBAR: THE STAR (VIEWS)

TARIKH: 12 OGOS 2019 **MUKA SURAT: 17**

National research on dengue

I REFER to the article "Innovative research to fight dengue needed" (*The Star*, Aug 11; online at bit.ly/star_dengue).

I agree with all of Prof Dr Sazaly Abu Bakar's observations and suggestions. However, pouring more money into dengue research without first ensuring that we have a trained and effective research workforce is wasteful.

Even worse, untrained researchers often produce misleading research results that may further endanger patients. This has been documented numerous times including, more recently, in a publication titled "How to survive the medical misinformation mess" by Stanford University (Metrics) researchers.

Management of dengue has been codified in Malaysia by bringing all the evidence together in a clinical practice guideline (CPG).

A CPG usually indicates if the guidance it offers is based on good quality, formal research evidence or on an expert consensus if no formal research evidence exists. Questions for which neither formal research evidence nor expert consensus exist will be left up to the discretion of the treating doctor on a case-by-case basis.

A good CPG will highlight the best available evidence and save lives. A poorly written CPG may mislead and even cause injury and death.

Clinical research-related issues are always professional matters related to life and death. As such, the quality of clinical research evidence matters.

For a CPG to be safe for patient use, at least two criteria need to be met. Firstly, the clinical specialists drafting the CPG need to be able to "critically read" a research paper. Secondly, the CPG needs to be based on high-quality and accurate clinical research. Unfortunately, in Malaysia, these criteria are not consistently met.

This is why we need to talk about the publicly available 2015 Adult Dengue Clinical Practice Guidelines drawn up by the Health Ministry in collaboration with the Academy of Medicine, Malaysia.

In Malaysia, a lot of what passes for "clinical research" is university-affiliated/associated. It is often done by trainee clinical specialists as part of their Clinical Masters degree.

The problem with this type of research is manifold:

1) The clinical trainees and their supervisors (senior consultants/professors) are often untrained in research methods entirely or only possess academic PhDs as opposed to professional PhDs (which are more expensive).

2) Because the research component is crammed into a busy four-year clinical specialisation programme, the research project is usually very small in scope, sample size and number of participating hospitals.

This is very different from the features required in high-quality, fit-for-clinical-purpose research which (a) needs to be broad in scope to answer the many interrelated clinical questions, (b) have a sample size in the thousands, and (c) involve a large number of hospitals to be able to detect variations in patterns – it is this variation in pattern that might give us clues to the cause of death in patients.

Further, critical questions without an answer in the 2015 CPG are still without an answer today because it may not be personally profitable for anyone to do this kind of in-depth research to save lives.

Why can't we use foreign research? We cannot rely on research done in other countries because of variation (and its interplay) in genetic makeup and differences in environmental factors in the population.

Factors that cause death in one population may not be the same factors that cause death in another. We will not know what is similar and what is different until we do our own research. We have no choice but to have a robust national research infrastructure if we are to win the war against dengue deaths.

What is the Malaysian situation with regard to CPG writers? Many, if not most, of the 2015 dengue CPG writers are those who qualified with a Clinical Masters degree.

All those who qualify as clinical specialists are required to be able to critically read research papers, both to treat the individual patient in front of them and to write CPGs to outline a plan for treatment of a population of patients to assist junior doctors handling dengue cases.

However, there is no evidence that Malaysian-trained clinical specialists do indeed consistently possess this vital skill.

The possible lack of research literacy and numeracy can be seen in the 2015 Adult Dengue CPG. The CPG writers displayed instances where they clearly were not able to critically read and understand a research paper and instances where information given was based on low-quality local research.

A large chunk of Malaysian clinical research is university-affiliated. Universities may unintentionally incentivise low-quality research because their academic staff are required to constantly produce research.

Tacking their names onto low-quality research done by trainee clinical specialists is the norm to fulfil yearly KPI and promotion requirements.

Clinical Masters trainees spend so much time data gathering that they often neither acquire the skills to "critically read" nor "do" research.

In view of the alarming situation with dengue deaths, I strongly urge the Health Minister and the government to suspend individual research KPIs for all infectious disease physicians and other doctors involved with the treatment and management of dengue patients. The research project requirement for internal medicine trainees should be similarly suspended.

May I also suggest that a national dengue research body be constituted to look at gaps in our knowledge identified in the 2015 CPG and undertake the relevant research to update the CPG as a matter of urgent priority.

All infectious disease physicians and internal medicine trainees should come under the purview of this research body.

Further, all money meant for dengue research should be given to this national body so that coherent research can be planned and executed quickly to save lives.

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