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## Editorial

# Anticipation and Paediatric Medicine

As clinicians, we are very much accustomed to the diagnose-and-treat version of medicine. In parallel, the anticipate-and-prevent version of healthcare is no less important. The word "anticipate" has its origin from the Latin *anticipat*, literally meaning to act in advance, from *anticipare*, based on *ante-* (before) and *capere* (take). The values of foresight from individual to societal level, from animals to humans, and from business to healthcare sectors have been acknowledged.

Inherent to anticipation is the consideration of future possibilities and availabilities of a window period, albeit may only be a short one, for implementation of actions that may influence outcomes. As an example, in anticipation of climate-related health threats, the health care system has a dual role in both adaptation and mitigation.<sup>1</sup> In the clinical setting, in anticipation of a possible stormy post-operative course after open heart surgery, the paediatric cardiac intensivist would exhaust means to prevent the occurrence of probably complications.

In this issue of the Journal, several articles have illustrated the anticipate-and-prevent attitude relevant to the practice of paediatric medicine. Leung et al reported on behalf of the Working Group commissioned by the Hospital Authority, Hong Kong, Paediatric Coordinating Committee the results of a retrospective survey on hyponatraemia across all acute paediatric units within Hospital Authority.<sup>2</sup> They found in this one-year survey that hyponatraemia occurred in about 8.8% of all paediatric admissions and identified the use of hypotonic intravenous fluid as a likely contributor. Careful prescription of intravenous fluid with proactive prevention of hyponatraemia is a logical conclusion. In another article, Chan et al examined the hygiene knowledge and handwashing practice among kindergarten children and evaluated further the effect of an intervention through giving a hygiene thematic lecture.<sup>3</sup> Despite some effects on the thematic lecture on the percentage of kindergarteners fulfilling the recommended handwashing standard, it remained relatively low at about 15%. The importance of promoting hand hygiene amid the current pandemic cannot be over emphasized. How to proactively improve this practice at the community level given the findings of this study is the next logical question. Two other original articles illustrate the importance of anticipation of patients and doctors, respectively. Çuhaci Çakir et al examined the pain anticipation and response of infants to two different intramuscular vaccine injections,<sup>4</sup> while Altay et al described their 4-year experience of a single centre with regard to the causes of gastrointestinal bleeding in a relatively large cohort of paediatric patients.<sup>5</sup> Anticipation of the likely causes of the upper and lower gastrointestinal bleeding facilitates the arrival at a correct diagnosis and institution of appropriate clinical management.

In a variety of domains, it is perhaps reasonable to concur that the ability to anticipate events that are going to happen is a defining characteristic of outstanding performers in their own fields. In demanding sports activities in which the players need to deal with rapid dynamic changes, the ability to anticipate and pick up kinematic cues, recognise global patterns of play and utilise contextual information would inform judgement.<sup>6-8</sup> In a study on how decision making among obstetricians improves birth outcomes by reducing caesarean section rates, Currie and Macleod showed that better procedural skills increases the use of this intensive procedures for everyone, while better decision making of the obstetrician results in a reallocation of procedures from fewer low risk to high risk cases.<sup>9</sup> The ability to anticipate in medical decision making may after all also be a defining characteristic of clinicians.

Anticipation can be a catalyst in the formulation of preventive and proactive medical care. The anticipate-and-prevent approach may operate in individual paediatric patient at the hospital setting level, on populations at a national level, or even on human beings as a whole at a planetary level. In the strategic development of genomic medicine in Hong Kong, the Government has announced the launching of a large scale genome sequencing project to build up a database for research, treatment and diagnosis.<sup>10</sup> Capitalising on personalised health data and gene-based testing results, precision preventive medicine has been speculated to enable a revolutionary change in medical practice.<sup>11</sup> The evidence remains yet, however, to be provided.<sup>12</sup>

If we have learned anything from Lao Tsz, it is that to 'anticipate the difficult by managing the easy'.

**YF Cheung**  
Chief Editor

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