Summary

When detected early, the survival rate for early-stage NPC is more than 80 percent. In Indonesia and other endemic countries in Asia, NPC tends to persist and re-occurs due to lack of NPC awareness and limited treatment options. Most patients with NPCs actually present with symptoms that are easily mistaken for innocuous problems. In Asian societies, many patients attribute these symptoms to being ‘food-related disease’ and often self-medicate with traditional medicine, thus delaying presentation to professional health-care facilities.

Known causes of NPC include genetics, regular intake of salted/dried fish and EBV infection. Infection with EBV is very common, affecting all human populations and is largely asymptomatic and life-long. It is unclear why this common virus triggers cancer in some people. Dietary exposure to nitrite and nitrosamines during childhood that trigger continuous virus reactivation in long-term period may play a role in the development of NPC. Different ethnic populations have NPC with incidence variations within endemic countries. Interestingly, the distribution of NPC around the world is changing, with Western countries forecast to get more cases. This trend is due to international migration of Chinese and their descendants to Europe and United States.

Most of our current knowledge on NPC has been generated in China and Western populations. As the socio-economic profile, life style and culture varies between each Asian country and are substantially different from western population, diagnostic and
prognostic findings both in blood and tumor tissues, including NPC prediction rules, are increasingly shown to be ‘setting specific’. Therefore EBV-associated NPC biomarkers must be validated in multiple populations before implementing them in clinical care in Asia.

Screening for NPC may improve early detection and outcomes. China and Taiwan have initiated population-based NPC screening programs whereas Indonesia is still focused on improving education program and national awareness. Effectiveness of EBV antibody screening among individuals at risk is sub-optimal and thus a combination with tumor biomarkers such as EBV-DNA and microRNAs may provide solution. These multiple tumor-related EBV biomarkers must be defined prudently, with appropriate customization for each region.

Despite screening programs in some countries, there is misunderstanding in parts of endemic and non-endemic regions about how NPC develops and can be treated, in addition to a lack of awareness about the risks of traditional remedies. Geographical isolation, inadequate diagnostic and treatment facilities, and competing healthcare needs represent a significant problem to NPC prevention and control.

As researchers continue to identify and characterize biomarkers which predict disease presence and outcome, clinicians will be better poised to offer individualized effective care of patients’ diseases. Oral drug formulation that both target virus gene products and enhance immune responses to cancer are becoming available and merits further clinical trials. NPC
management in high-income vs. low-income countries should not affect ultimate efforts of reducing NPC mortality.

While NPC research is warranted in all domains of medical aspects, it is felt that for NPC patients in both endemic and non-endemic regions, needs are highest for diagnostic and prognostic studies. International clinical trials meanwhile need to include NPC patients not only from various Asian settings but also from population in Western countries to provide an insight into the effectiveness of new treatment modalities worldwide.