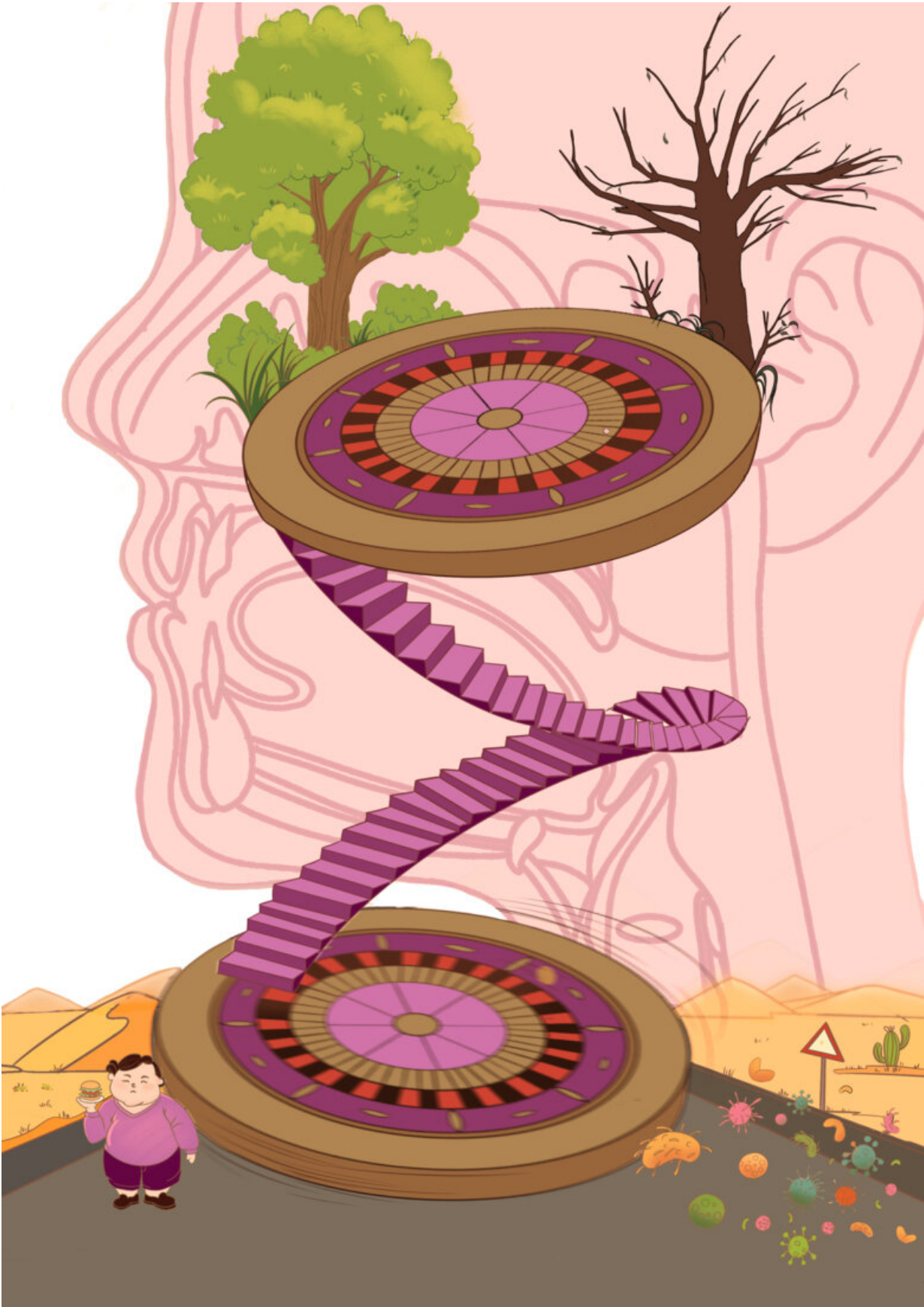


Thesis explores prognosis of nasopharyngeal carcinoma

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Credit: Sisi Huang and Yun Du

Nasopharyngeal carcinoma (NPC) is a type of cancer that occurs in the nasopharynx, which is located behind the nose and above the back of the throat. NPC has a geographically skewed distribution worldwide, with high incidence rates in East and Southeast Asia. NPC is difficult to detect early, and treatment usually involves radiation therapy, chemotherapy or a combination of the two.

Recent hospital-based studies suggest that the development of new radiotherapy techniques has contributed to improved NPC prognosis, but little population-based research on NPC [patient survival](#) is available. Similarly, little is known about potential environmental prognostic factors for NPC, such as [body mass index](#) (BMI) and [body shape](#), pretreatment plasma Epstein-Barr virus (EBV) DNA, and oral microbiome. Therefore, Ph.D. student Yun Du at the Department of Medical Epidemiology and Biostatistics aimed her doctoral thesis to characterize population-based NPC survival patterns and identify potential prognostic factors for NPC in southern China.

What are the most important results in your thesis?

By using a population-based patient cohort of NPCGEE project in southern China, we estimated five-year survival rates and investigated potential environmental prognostic factors. We also found that population-based NPC survival lags behind large-hospital-based survival. Overweight at diagnosis indicated a favorable long-term prognosis, whereas a thinner body shape at diagnosis was associated with worse prognosis. Pretreatment plasma EBV DNA was found to be a strong

prognostic factor for NPC and decreased within-community diversity in [oral microbiome](#) was related to increased mortality. Taken together, this is the first population-based evidence on NPC prognosis in southern China with almost complete follow-up, and points to potential routes to improving NPC management and long-term outcomes in this NPC-endemic region.

Can your findings be generalized?

This thesis was conducted in a NPC-endemic area where most of the cases from the studied population were enrolled during the study period. Hence, the findings of our study have high external validity and may be applied to a broader population in southern China or other endemic areas.

What do you think should be done in future research for these patients?

We found that approximately one-fifth of deaths could have been avoided if all cases had been diagnosed at an early stage. These results motivate us to further explore early detection methods for NPC. Second, we could explore the reasonable clinical practice to incorporate nutrition management and plasma EBV DNA into NPC treatment. For the microbiome research, we have lots of unknown prospective, for instance, the underlying mechanism, the role of immunity and immunotherapy etc., for us to explore deeper.

More information: Prognosis of nasopharyngeal carcinoma: body mass index, plasma Epstein-Barr virus DNA and oral microbiome.
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