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Improving the maternal mortality rate in Lao PDR: 10 years after the publication of the Yang Ye paper in the *Nagoya Journal of Medical Science*

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Ye Y, Yoshida Y, Harun-Or-Rashid M, Sakamoto J. Factors affecting the utilization of antenatal care services among women in Kham District, Xiengkhouang Province, Lao PDR. *Nagoya J Med Sci.* 2010;72(1–2):23–33.

The aim of this study was to identify the socio-demographic characteristics, knowledge, attitude and accessibility factors related to the utilization of antenatal care (ANC) service among pregnant women in the Kham District, Laos. Data for this cross-sectional study were collected in July 2008, using a two-stage cluster sampling strategy from 24 selected villages in the Kham District. A total of 310 married women of reproductive age who had at least one child and had delivered the last child within two years from the date of data collection were interviewed using structured questionnaires. To examine the predictors of ANC utilization, odds ratios (OR) and 95% confidence intervals (CI) were estimated through a logistic regression model. The results showed that about 53.9% of mothers did not receive any ANC service due to the following reasons: no time (93.4%), not necessary (83.8%), feeling embarrassed (74.3%), and living far away from the ANC facility (71.3%). We found that significant predictors of ANC utilization (p -value < 0.05) were: level of education (OR = 6.8, 95% CI = 2.7–16.8), income (OR = 2.6, 95% CI = 1.2–5.7), knowledge (OR = 6.5, 95% CI = 2.4–17.6), attitude (OR = 3.0, 95% CI = 1.3–7.1), distance (OR = 2.9, 95% CI = 1.1–7.6), availability of public transportation (OR = 4.5, 95% CI = 2.0–10.4), cost of transportation (OR = 2.5, 95% CI = 1.1–5.7), and cost of service (OR = 4.6, 95% CI = 2.2–9.6). Our study shows that the utilization of ANC service was very low. Among other factors, limited knowledge, and lack of a good attitude along with misconceptions about ANC services were the major constraints behind this low utilization. Future health care activities should be focusing on improving women's awareness of ANC. ANC staffs should conduct frequent visits to pregnant women until ANC services become easily accessible to them.

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In January 2008, on my YLP (Young Leaders' Program) interview trip to South-East Asia, I was asked by Dr Bounfeng, director of the Cabinet in the Ministry of Health, Peoples' Democratic Republic of Laos (Lao PDR). Dr Bounfeng had himself been one of the first-generation YLP participants five years previously, and wondered whether the YLP Medicine course at Nagoya University would accept two participants from Lao PDR for the next selection of sixth-generation participants. As a rule, YLP received only one candidate from one country every year. That year, Dr Bounfeng was anxious to send one participant from a rural area of Lao PDR, in addition to selecting an elite candidate from the urban capital city region. Dr Bounfeng told me that he was eager to extend the network of Nagoya YLP graduates to the whole country. With my agreement, Dr Yang from Xiengkhouang Province came to my interview room in the Japanese Embassy in the capital city of Vientiane. Xiengkhoang Province is located in the eastern part of Lao PDR, and during the Vietnamese war, a famous Ho Chi Minh route intersected the province to send weapons and supplies from North to South Vietnam. Since the province had been under the strong influence of communist countries, Dr Yang spoke Russian quite well, but his English was poor. However, after a long interview at the Japanese Embassy, I realized that he was a brilliant person, and I became confident that he would be perfectly compatible with the graduate course in YLP at Nagoya University.

When we discussed his research subject in Japan, Dr Yang proposed research investigating situations of antenatal care (ANC) in his Xiengkhouang Province. Since he had been working as a medical doctor in a rural/remote area covering a population of more than 10,000 to one medical doctor (in Japan the equivalent figure is 3-400 doctor/population), he said that he had come across serious complications in pregnant women at childbirth that sometimes led to the death of both the mother and the newborn infant.

Before coming to Japan in October 2008, Dr Yang had interviewed 310 married women of reproductive age concerning the utilization of ANC in Kham District, the second-largest and probably the poorest area in the Xiengkhouang Province. According to the survey by WHO in 2007, ANC coverage was 98% in Thailand, 91% in Vietnam, 76% in Myanmar, and 69% in Cambodia, but it was only 27% in Lao PDR, the lowest among those South-Eastern Asian countries.¹ Since the maternal mortality rate (MMR) in the Lao PDR was 660 per 100,000 live births and the worst among those Asian countries, it was presumed to be strongly correlated with the low distribution of ANC coverage in the country.

The cross-sectional study by Dr Yang was quite informative in illustrating factors restricting utilization of ANC in the Kham District, one of the most rural and poorest parts of the province.² Knowledge about the benefits of ANC seemed to help to decrease morbidities during pregnancy and after delivery, diminishing maternal and neonatal mortality, and contributing to the health of the whole family. Dr Yang's study disclosed that a positive attitude to ANC services by way of proper education and campaigns must be a critical factor. Other constraints were the cost of examination and limited access to ANC facilities and a means of transportation. In this respect, he also proposed introducing mobile clinics and/or home-care visits by qualified health professionals, especially for poor women living in remote areas. The publication of his paper in the *Nagoya Journal of Medical Sciences* was quite timely because Lao PDR had just launched the fifth "Millennium Development Goal" in an attempt to develop "Maternal, Neonatal, and Child Health Services" as a national project.³

In 2012, I went to visit Dr Yang in Xiengkhouang during my interview trip to Lao PDR. Xiengkhouang City was about a 1-hour flight from the capital city of Vientiane. Nearby, there

is a world heritage site called the “Plain of Jars,” a field of huge stone-carved jars scattered across the plain of the province (Fig. 1). Situated in the middle of the former “Ho Chi Minh route,” the Plain of Jars remained a dangerous minefield, and careful attention was required for the visitors not to step away from the safety zone. The purpose of my visit to Xiengkhouang at that time was to celebrate and support the promotion of Dr Yang who had just been nominated a “Party Member” ie, a congressperson of the provincial government. On behalf of the Nagoya University YLP, I hosted a dinner party inviting the Governor, Congress President, Attorney General, and other dignitaries of Xiengkhouang Province (Fig. 2). Dr Yang, while looking after his patients, seemed to have realized that administrative activities are imperative to improve total health-related issues, and decided to stand for the province congressperson to better serve the provincial community.



Fig. 1 The Plain of Jars, which is the third World Heritage Site and a vast minefield in Lao PDR, is a heritage of the Vietnamese war over 60 years ago



Fig. 2 Administrators from Xiengkhouang Province; from left, Attorney General, Dr Yang, Province Congress President, Sakamoto, Province Governor

With the advent of the Lao PDR governmental campaign for the fifth “Millennium Development Goal” that motivated healthcare administrators in better practice, total healthcare in Lao PDR changed a great deal during the following ten years. A survey in the southern Champasak and Khommouane provinces in 2010 demonstrated that 51% of pregnant women had at least one ANC in the region⁴ and another study elucidated that the ANC service utilization rate had doubled since the start of the campaign in 2009, which could be relevant to the improvement in MMR to 357/100,000 live births.⁵ In 2015, a report from the WHO showed another steep decrease in MMR in Lao PDR to 197/100,000 live births.⁶ Another survey implemented in the two southern provinces of Lao PDR has shown improvements in the provision and utilization of ANC services^{7,8} despite some concern remaining about insufficient education and a lack of support from qualified professionals that have continued to impede the health literacy of the people, especially those living in remote areas.⁹

All in all, it should be emphasized that progress in ANC services and a decrease in MMR have been achieved during these 10 years since the launch of the 5th Millennium Development Goal project led by the government of Lao PDR.

With proper advice and continuous support from Dr Bounfeng, YLP has been receiving post-graduate course participants not only from the capital’s urban areas but also from the local, rural part of the country; Xiengkhoang, Champasak, Sayaboury, and Savannakhet provinces (Fig. 3).

Dr Bounfeng, who served as Deputy Director of the Cabinet and afterward as vice-minister in the Ministry of Health, was inaugurated as Minister in the Ministry of Health of Lao PDR in March 2021. We are confident that the reform of healthcare in Lao PDR will accelerate under the powerful and brilliant leadership of Dr Bounfeng.

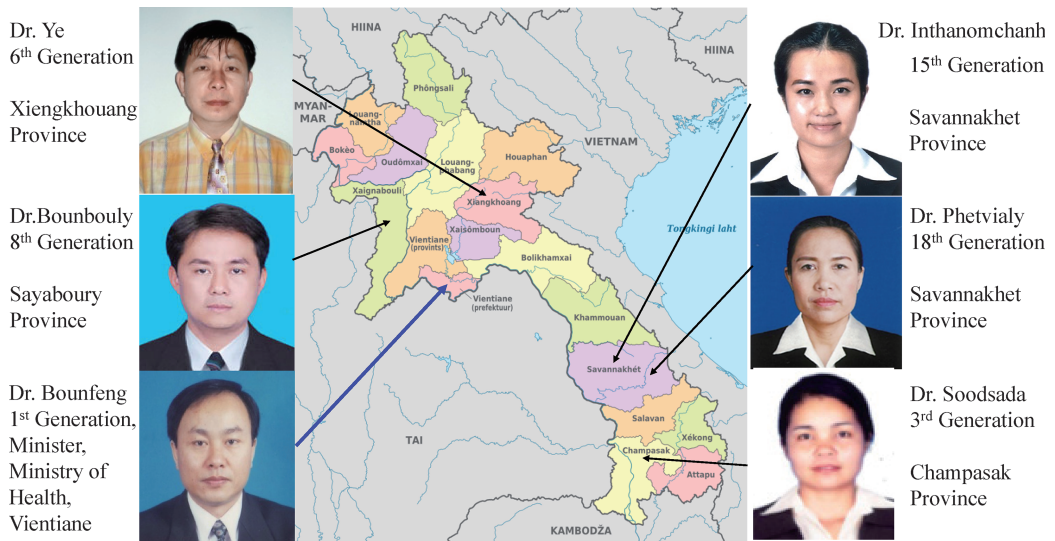


Fig. 3 Minister Bounfeng Phoummalaysith MD, PhD. Minister of Health Lao PDR (lower left) and the network of YLP graduates in Provinces of Lao PDR. YLP participants were invited from Xiengkhoang, Champasak, Xayabouli, and Savannakhet provinces, as well as from governmental organizations in the capital city of Vientiane.

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