

Eye Health Status in Laos PDR

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Background

Laos People's Democratic Republic (Laos PDR) is a landlocked country in the southeastern Asia. The country is bounded on the north by China, on the east by Vietnam, on the south by Cambodia, and on the west by Thailand and Myanmar. Laos has the total land area of 236,800 square–kilometers, and population of 5.8 million (2007 census). Eighty percent of the population live in the rural area. The economy is mainly on agriculture. The average gross domestic product (GDP) per capita is 700 US\$.

Laos is divided into 17 provinces, which are subdivided into 139 districts and 9,113 villages. Major cities include Vientiane, the capital city, with population of 640,000 (2000 estimate), (Louangphrabang, the former royal capital city with population around 68,000 (1995 estimate), Savannakhet with population around 97,000 (1995 estimate), and Pakxé with population around 47,000 (1995 estimate).

The general information on health status and health care

The population growth rate in Laos is 2.0%, with the crude birth rate of 32.6 per 1,000. The infant mortality rate is 64.4 per 1,000 and the under–5

mortality rate is 88.6 per 1,000. The life expectancy is 62 years (60 years for male and 64 years for female). About 67% of the households have access to clean water supply, and about half of the households have latrine.

There are 4 central hospitals, 4 regional hospitals, 13 provincial hospitals, 139 district hospitals and 769 health centers. The number of eye care professionals is still insufficient. In 2009, there are only 15 ophthalmologists and 14 basic eye doctors (BED, physicians who had short period of ophthalmology training), which makes the ratio of eye doctor to population of 1:200,000. There are 128 ophthalmic nurses and 18 eye care personnel trained in refraction, low vision and strabismus. (Table 1) The administrators recognize the importance of eye care personnel. They plan to train a couple of new ophthalmology residents every year and also to upgrade the BED into fully trained ophthalmologists.

Laos PDR divides the level of eye care services into 3 levels. The ophthalmology center in Vientiane is the top eye care center of the country and considered to be the tertiary level. The eye units in 4 regional hospitals (Oudomxai, LuangPrabang, Savanakheth, and Champasak) and in 11 provincial hospitals (Phongsaly, Bokeo, Luang Namtha, Sayabury,

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Xieng Khuang, Houa Phan, Bolikhamxai, Khammouane, Saravane, Sekong, and Attapeu) are considered to be secondary eye care level. The primary eye care level where the people first contact to the eye care services is assigned to 139 district hospitals and health centers around the country. At the primary eye care level, the basic eye care is provided. The primary eye care is integrated into primary health care.

In the year 2007, Laos PDR has conducted a national survey for blindness. The survey protocol uses the Rapid Assessment of Avoidable Blindness (RAAB) protocol. It surveys people aged 50 years or more which account for 11.3% of the total population (according to the 2005 census). This age-group has the highest prevalence of blindness. Fifty one clusters (each cluster comprises of 50 people) were sampling from 17 provinces. The total of 2,550 people is examined. The blindness is defined as persons with VA < 3/60 (<20/400) in the better eye with available correction. The crude blindness rate from this survey is 2.85%. From this figure, if we consider the whole population, the prevalence of blindness of people age 50 years or older accounts for blindness prevalence of 0.32. If we estimate that the blindness in this age-group accounts for half of the overall blindness, then the national prevalence of blindness can be estimated as about 0.62.

The most important cause of blindness in Laos is cataract, which accounts for 65.3% of all blindness. The other important causes are glaucoma (12.5%), corneal scarring (6.9%), and surgical complications (6.9%). The detail of blindness causes are shown in table 2.

The blindness prevalence in males and females are different. While the blindness prevalence in male is 1.83, the blindness prevalence in female is

3.71. The prevalence of cataract blindness shows the same pattern. The cataract blindness prevalence in male is 0.52, and the cataract blindness prevalence in female is 1.75.

The findings from the survey show that 112 people (4.4%) have already had cataract surgery performed and intraocular lens (IOL) inserted. The outcome of cataract surgery in the survey is not as good as expected. The World Health Organization (WHO) recommended that after cataract IOL surgery, the percentage of people having visual acuity with available correction less than 6/60 (poor outcome) should not exceed 5%. The data from the survey show that poor outcome is 30.4%. (Table 3)

When interview the blind people in the survey about the barrier to access to cataract surgery, 31.7% answer that they cannot afford, 13.3% answer that they had no accompanying persons. The detailed results are shown in Table 4.

Cataract is the major cause of blindness and visual impairment in Laos PDR. The number of cataract surgery increases every year from 3,158 cases in the year 2005 to 5,458 in the year 2008. Intraocular lens was inserted in over 99% of cases. This makes the cataract surgical rate to be 925 per million population. (Table 5) The distribution of cataract surgery is shown in table 6. All provinces except Phongsaly has some cataract surgeries. The cataract surgical rates (CSR) in provinces range from CSR of 359 in Huaphan, to CSR of 1,685 in Attapeu. Only 23% of cataract surgeries in the year 2008 are performed in the base hospitals. The majority of cases (77%) are performed in the outreach cataract surgeries.

Glaucoma is the second most common cause of blindness in Laos PDR. There are many problems in glaucoma management in Laos PDR. The major problems are: the diagnostic equipment is available in

the tertiary level, patients could not afford for long-term anti-glaucoma medications, lack of long-term follow up, and patients usually come late in the disease stage. These problems are still challenging for glaucoma management. The number of glaucoma surgeries is 218 in the year 2007 and rises to 251 in the year 2008.

The eye health information system (EHIS) is important to establish information system to be used for planning for eye health management. The use of international classification of diseases (ICD-10) is applied only at ophthalmology centre in Vientiane Capital and some regional hospitals. There is no regular reporting system.

Technical cooperation between developing countries (TCDC) is available. There is cooperation in human resource development (ophthalmologists training, ophthalmic nurses training, refraction/low vision/strabismus training, and also short courses training), infrastructures support from Thailand, Vietnam, and Japan. There are also support from international and local NGOs such as CBM, SightFirst Lions Club International, Dark & Light Foundation, Blindness Foundation, IRIS, and donation from famous monks in Thailand.

The current plans in prevention of blindness are as followings:

- Continue residency, ophthalmic nurse, refractionist training.
- Provide cataract surgical services to reach CSR of 1,000.
- Develop screening program such as: retina screening for diabetic retinopathy, glaucoma screening, and school eye health screening.

- Upgrade comprehensive eye care services in 4 northern provinces and upgrade eye care facility & eye care services at Xiengkouang province.

- Strengthen the refraction service of each province.

Discussion

As a small country, Laos PDR has improved the eye health conditions for its population. The number of ophthalmologists is still considered to be inadequate. There are also basic eye doctors (BED) who had short-termed training in ophthalmology. The human resource plan is to produce more fully trained ophthalmologists, to upgrade BED into fully trained ophthalmologists, to provide some subspecialty training, to train more ophthalmic nurses, refraction/low vision specialists.

The Rapid Assessment of Avoidable Blindness (RAAB) performed in the year 2007 shows that the blindness rate among people aged 50 years or older to be 2.85%. Cataract accounts for 65% of the blindness. The data show sexual discrepancy in eye health care, which the blindness prevalence in female (3.71%) is double of the blindness prevalence in male (1.83%).

Currently the cataract surgical rate (CSR) in the country is 925. There are cataract surgeries in almost every province, but the majority (77%) of the cataract surgeries is performed in the outreach program. The data from the survey show that poor outcome in cataract IOL surgeries is 30.4%. There are rooms for improvement in the quality of cataract surgery. Glaucoma treatment and refractive services are provided in the tertiary level and some of the secondary level. Effort has been placed in trying to expand the eye health services into all provincial level.

Eye care professionals	1995	2000	2005	2009
Ophthalmologists	1	6	9	15
Basic Eye Doctors	14	28	19	14
Ophthalmic nurses	11	58	108	128
Refraction/Low vision/ Strabismus	0	0	12	18

Table 1 Shows the numbers of eye care professionals in advancing years

Causes of blindness	Percent
Cataract	65.3
Glaucoma	12.5
Corneal scarring	6.9
Surgical complications	6.9
Phthisis bulbi	4.2
Posterior segment diseases	4.2

Table 2 Shows major causes of blindness in Laos PDR, survey by Rapid Assessment for Avoidable Blindness (RAAB) method in 2007

WHO guideline of available VA	Percent of outcome from the survey
Good ($\geq 6/18$)	50%
[should be $> 80\%$]	
Borderline ($< 6/18$ to $\geq 6/60$)	19.5%
[should be $< 15\%$]	
Poor ($< 6/60$)	30.5%
[should be $< 5\%$]	

Table 3 Shows results of the cataract IOL surgery from the survey

Causes	Percent
Cannot afford	31.7
No accompanying persons	13.3
Fear of losing sight	10.0
No information of the treatment	10.0
No services available	6.7
Fear of operation	5.0
Unaware	1.7
No time	5.0
Old age, no need	13.3
Contraindicate to surgery	3.3

Table 4 Shows the reasons why the blind people do not go to receive surgical treatment

Year	Number of cataract operations	% with IOL insertion	CSR
2005	3,158	97.0	563
2006	4,831	96.0	847
2007	5,432	98.3	941
2008	5,458	99.4	925

Table 5 Shows number of cataract surgery in Laos PDR

* CSR = cataract surgical rate

Province	Population	Base hospital surgery	Outreach surgery	Total	CSR*
Phongsaly	170,260	0	0	0	0
Oudomxai	278,941	28	176	204	731
LuangNamtha	152,868	21	126	147	962
Borkeo	153,340	0	132	132	861
Huaphan	295,445	0	106	106	359
XiengKhuang	251,840	65	32	97	385
Luangprabang	423,346	15	335	350	827
Xaiyabury	352,998	26	163	189	535
Vientiane	442,330	24	183	207	468
Vientiane Capital	725,820	692	43	735	1,013
Bolikhambxai	240,536	0	118	118	491
Khammuan	352,697	25	520	545	1,545
Savannakhet	858,582	323	809	1,132	1,318
Champasack	625,746	60	671	731	1,168
Saravan	341,020	0	446	446	1,308
Xekong	90,044	0	120	120	1,333
Attapeu	118,103	0	199	199	1,685
Total	5,873,616	1,279	4,179	5,458	929

Table 6 Shows the numbers of cataract surgery in provinces in the year 2008

สถานการณ์ของภาวะสุขภาพทางตาในประเทศลาว

เรียบเรียงโดย ภฤศ หาญอุตสาหะ, พ.บ. *

บทสรุป:

สาธารณรัฐประชาธิปไตยประชาชนลาวมีประชากรประมาณ 5.8 ล้านคน แบ่งเขตการปกครองออกเป็น 17 จังหวัด 139 อำเภอ มีเมืองหลวงคือเมืองเวียงจันทน์ ซึ่งมีประชากรประมาณ 640,000 คน มีจักษุแพทย์ 15 คน และ basic eye doctors ซึ่งเป็นแพทย์ที่ผ่านการอบรมระยะสั้น 14 คน ทำให้มีอัตราส่วนจักษุแพทย์ต่อประชากรประมาณ 1 ต่อ 200,000 มีพยาบาลเวชปฏิบัติจักษุวิทยา 128 คน และมีผู้ผ่านการอบรมด้านการวัดสายตา, สายตาเลือนรางและตาเข 18 คน

ในปีพ.ศ. 2551 มีการสำรวจภาวะตาบอดแห่งชาติ โดยใช้วิธี Rapid Assessment of Avoidable Blindness (RAAB) โดยสุ่มสำรวจคนอายุ 50 ปีขึ้นไป พบว่าอัตราตาบอดในกลุ่มนี้เท่ากับ 2.85% มีข้อมูลที่น่าสนใจคืออัตราตาบอดในเพศหญิง เท่ากับ 3.71% ซึ่งสูงเป็นสองเท่าของอัตราตาบอดในเพศชาย (1.83%) สาเหตุสำคัญของตาบอดได้แก่ต้อกระจก (65%) สาเหตุรองลงมาได้แก่ ต้อหิน โรคของกระจกตา และภาวะแทรกซ้อนจากการผ่าตัด

ประเทศลาวสามารถเพิ่มการให้บริการการผ่าตัดรักษาต้อกระจก โดยในปี 2548 มีการผ่าตัดต้อกระจก 3,158 ราย เพิ่มขึ้นเป็น 5,458 รายในปี 2551 นับเป็นอัตราการผ่าตัด (cataract surgical rate, CSR) 925 ต่อประชากรล้านคน อย่างไรก็ตามการให้บริการผ่าตัดต้อกระจกนี้ มีเพียงร้อยละ 23 ที่เป็นการผ่าตัดในโรงพยาบาลหลัก ส่วนใหญ่ยังคงเป็นการออกหน่วยให้บริการผ่าตัด ซึ่งอาจเป็นเหตุให้ผลการผ่าตัดยังไม่ดีนัก พบการมองเห็นหลังผ่าตัดต่ำกว่า 6/60 ถึงประมาณร้อยละ 30

แนวทางในการพัฒนาระบบสุขภาพตาของประเทศลาว ได้แก่ การพัฒนาคน โดยเพิ่มการผลิตจักษุแพทย์ พัฒนาจักษุแพทย์ที่มีอยู่ให้ได้มาตรฐาน พัฒนาพยาบาลเวชปฏิบัติทางจักษุวิทยา และผลิตผู้ปฏิบัติงานที่มีความรู้ด้านการวัดสายตา ดูแลผู้ป่วยสายตาเลือนราง และตรวจวัดภาวะตาเข นอกจากนี้ยังมีการพัฒนาเครื่องมือและโครงสร้างพื้นฐานของหน่วยจักษุวิทยาให้สามารถให้บริการดูแลรักษาโรคต่าง ๆ ได้ เช่น ต้อหิน จัดหน่วยวัดสายตา เป็นต้น และประสานการให้บริการทางจักษุวิทยาไปสู่ระบบสาธารณสุขมูลฐาน เพื่อให้เข้าถึงประชาชน และพัฒนาระบบข้อมูลข่าวสารทางจักษุวิทยาให้ดีขึ้น

Keywords: Laos, blindness prevalence, cataract surgical rate (CSR)

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