Eye Health in the Priests and Novices in Central Bangkok

Sombat Srisuwanporn MD*
Sukhontha Pattamasing na Ayutaya MD*, Sorot Wutthiphan MD*,
Suvit Ratanasirintrawut MD*, Nisa Sothornwit MD*,
Watanee Jenchitr MD*, Chalao Pongprayoon MD*

** Department of Ophthalmology, Priest Hospital*

Background: *Early detection and proper management of eye diseases in priests and novices is cost effective, and minimize serious ocular damage and permanent loss of vision. Therefore, the Department of Ophthalmology, Priest Hospital set-up an eye examination project for the priests and novices who came for physical examination. The laboratory test was part of the Sustained and Holistic Healthcare Program for Priests and Novices as Commemoration of His Majesty the King's 60 Years of Accession to the Throne.*
Objective: *To evaluate eye health status and screening for refractive error in priests and novices and to provide free spectacles and eye health education to fulfill the criteria of voluntary Buddhist eye health workers.*
Material and Method: *Between February and June 2006, the Department of Ophthalmology, Priest Hospital conducted eye examination for the priests and novices in 28 temples in central Bangkok. The priest and novices with refractive error and abnormal eye examination received appointment for repeated refraction and complete eye examination in Priest Hospital.*
Results: *Six hundred forty nine priests and novices had complete eye examination. Normal visual acuity (Snellen VA 20/20) was found in 355 (54.69%) cases. The most common eye diseases were refractive error with 294 cases (45.30%), cataract with 41 cases (6.32%), glaucoma with 10 cases (1.54%) and vitreoretinal diseases, which included diabetic retinopathy, age related macular degeneration and branch retinal venous occlusion with eight cases (1.23%). Three novices had amblyopia (0.46%).*
Conclusion: *Most of the priests and novices in central Bangkok had good eye health. Half of the eye problems were refractive errors. Since most of other eye diseases reported in priests were associated with aging and systemic diseases as hypertension, diabetes, and ischemic heart disease, regular ophthalmic examination should be provided in this risk group. Eye health education should be provided for sustainable eye health development as voluntary eye health workers in Buddhism.*

Keywords: *Priest, Novices, Eye health, Eye screening, Eye health education, Central Bangkok, Voluntary eye health worker in Buddhism*

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Visual impairment broadly affects the ability of people to function and to remain independent, as they grow older[1,2]. Several studies revealed a relationship between impaired vision and mortality[3-6]. This can be explained as decreased vision may be causally associated with falling[7], hip fracture, motor vehicle or transportation accidents[8]. Visual impairment may also contribute to functional disabilities and the need for community support[9], reduced social function and depression. For the priests that mostly have no

Correspondence to: Jenchitr W, Department of Ophthalmology, Priest Hospital 445 Sri Ayuthaya Street, Bangkok 10400, Thailand. Phone&Fax: 0-2354-4275. E-mail: j_watanee@hotmail.com

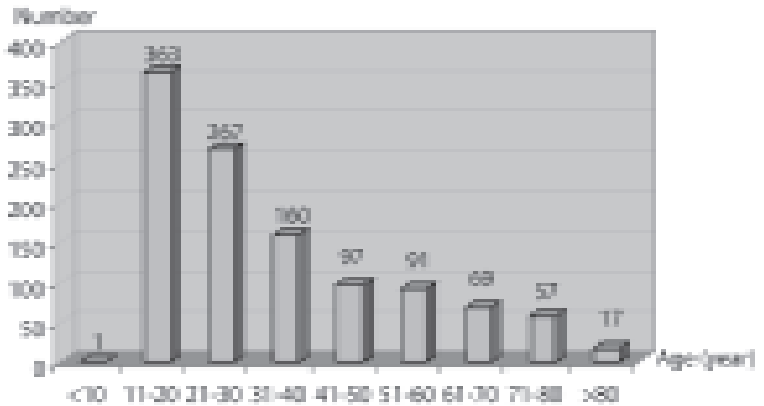

Fig. 1 Age range of the priests and novices in Sustained and holistic healthcare programmer of Priest Hospital

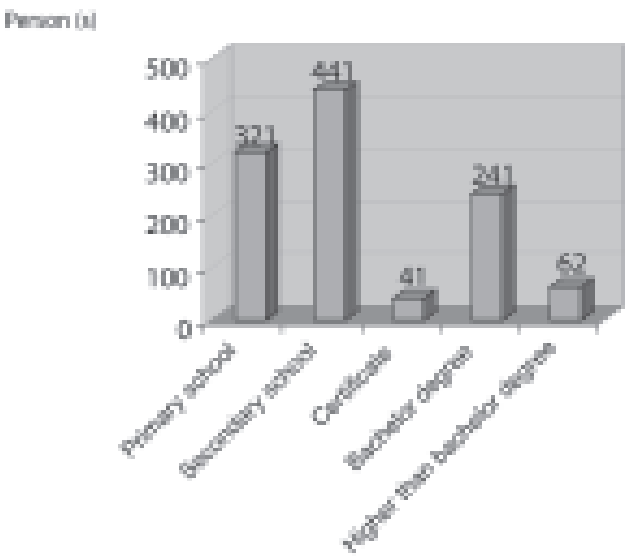

Fig. 2 Education level of priest and novices in the program (n = 1,122)

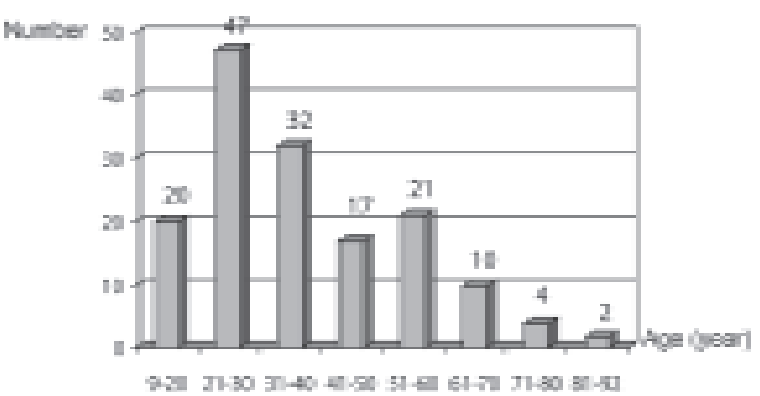

Fig. 3 Age range of priests and novices who continue smoking (n = 153)

relatives in the temple and only few relative at home, they need community support for their living as Buddhism discipline. Furthermore, they are self-dependent in moving and transportation. If they have eye problem or cannot live independently, they cannot continue their duties as Buddhist successor to teach a Buddhist way of live.

Early detection and proper management of eye diseases is important as it is a cost-effective solution and it minimizes severe ocular damage and permanent loss of vision. In Thailand, most of the priests belong to National Health Security Insurance Scheme. However, there are many barriers for them to receive health care services. The first barrier is lack of awareness of services and knowledge of their right. Most of them do not understand the services provide and do not identify themselves as having eye problems. The second barrier is the transportation between their living temples and the health care services. Other barriers are Buddhist rule and regulation to separate them from ordinary people. Because they seldom use their right, it leads to poor general and eye health status in some group. They may end up with advanced glaucoma, metastasis carcinoma, chronic asthmatic bronchitis and poor hypertensive and diabetic control with complication of poor vision, paresis, and paralysis.

Priest Hospital's mission is to maintain the general health of the priests so he can be an effective Buddhist successor. To maintain good general and eye health, the Department of Ophthalmology of Priest Hospital set-up a project for eye examination of the priests and novices who came for physical examination and laboratory test as part of a Sustained and Holistic Healthcare Program for the Priests and Novices as a Commemoration of His Majesty the King's 60 Years of Accession to the Throne. Realizing the health condition and the barriers facing the priests, Priest Hospital is now in a position to use that knowledge to guide the development and set-up the content of future health promotion campaigns. Longer life expectancy of the population around the world and in Thai population including the priests are going to dramatically increase the need for eye care to prevent visual loss from aged-related eye diseases such as cataract, glaucoma, diabetic retinopathy and macular degeneration[10]. In Thailand, the previous national survey of blindness in 1984, 1987 and 1994 [11] revealed that corneal blindness resulting mainly from trachoma and infections were apparently showing a downward trend. Xerophthalmia due to vitamin A deficiency is still a major public health problem in some area but not in Thailand. Only non-communicable eye diseases such as cataract, glaucoma and posterior segment diseases, are emerging.

Objectives

To evaluate eye health status and screening for refractive error in the disadvantaged group that are the priests and novices. The group with abnormal eye examination was referred to Priest Hospital for complete investigation and treatment. Eyeglasses were prescribed to those who needed. Eye health education was provided to the priests and novices. With this education, they will be able to take good care of their eyes, transfer their knowledge to their colleague, and act as voluntary eye health workers in their community.

Material and Method

Between February and June 2006, the Department of Ophthalmology of the Priest Hospital conducted eye examination. They checked visual acuity (VA) using Snellens'chart at 20 feet or 6 meters, intraocular pressure (IOP) measurement by pneumotonometer, and autorefraction. Provisional eye examination was done to the priest and novices of 28 temples of central Bangkok who participated in the Sustained and Holistic Healthcare Program as a Commemoration of His Majesty the King's 60 years of Accession to the Throne. Those with refractive error and abnormal eye screening by ophthalmic nurses were given appointment for repeated refraction and complete eye examination by the ophthalmologists. Free spectacles would be provided for those who needed them. Special tests such as repeat Goldmann applanation tonometry, gonioscopy, computerized visual field, nerve-fiber analysis, ultrasonography and fluorescein fundus angiography were done as necessary to get the final diagnosis. Eye medication and eye surgery would be provided free of charge. Eye health education with pamphlet was provided.

Results

One thousand one hundred twenty two priests and novices participated in the main project. The age range was 9-92 years old with mean of 34.1 years as shown in Fig. 1. For their education, 39.3% graduated secondary school level, 28.61% graduated primary school level, and 21.48% had a bachelor degree as shown in Fig. 2. For their health, 37.3% had medical diseases and 11.4% had eye diseases (Table1). The barriers to receive health care were transportation problem (18.54%), limitation to access due to monastic disciplines (17.20%) and financial problem (12.75%).

Table 1. General information of priest and novices in the program (n = 1,122)

Information	Number	Percent
Previous diseases informed by the priests		
Medical diseases	419	37.34
Eye diseases	128	11.41
Barriers to access healthcare		
Transportation	208	18.54
Monastic disciplines	193	17.20
Financial problem	143	12.75
Presence of rehabilitation device for disabilities		
Visual	102	9.45
Mobility	14	1.30
Hearing	5	0.39
Smoking		
No Smoking	772	69.42
Used to smoke	187	16.82
Continue smoking	153	13.76

Table 2. Eye disease of priests and novices who came for physical examination and laboratory test (n = 1,122)

Diseases	Number	Percent
Previous eyes diseases* (by history)	128	11.41
Eye diseases (by examination)	319	28.43
Appointment for eye examination and investigation	155	33.77
Came as appointment in eye services	136	87.74
Missed appointment in eye services	19	12.26

*Some priests reported previous eye disease without actual eye disease

Medical devices used to alleviate disability were low vision aids (9.45%), mobility aids (1.3%), and hearing aids (0.39%). For smoking behavior, 69.42% were non-smoker and 13.76% were current smokers. Their most common age range was 21-30 years old (30.06%) as shown in figure 3.Visual acuity testing was done in 938 cases, which 649 cases had complete eye information for analyses (Table2). Among 649 participants, 448 (69.03%) were priests and 201 (30.97%) were novices. Normal visual acuity (Snellen VA 20/20) was found in 355 (54.69%) cases. The most common eye diseases in these priests and novices were refractive error in 294 cases(45.3%), cataract in 41 cases (6.32%), glaucoma in 10 cases(1.54%) and vitreoretinal diseases in eight cases(1.23%), which were diabetic retinopathy, age-related macular degeneration and branch retinal vein occlusion (Table3). If age factor was eliminated, the eye diseases in Bangkok and rural area did not show much difference as shown in Table 4.The study result of eye diseases corresponded to the statistic of in- and out-patients department of Priest Hospital[12] (Table 5,6). It was noted that the non-communicable medical and eye diseases has been increasing. Three novices had amblyopia (0.46%) from neglected refractive correction. For smoking, the study showed correlation with cataract, hypertension, allergic diseases, paresis, and paralysis as shown in Table 7.

Discussion

Because the participants were in the lower age group (almost 350 participants were 11-20 years old and 280 were 21-30 years old), they had good VA (54.69%). Abnormal VA was 45.31%, which 26.20% were refractive error as myopia (48%) myopic astigmatism (22%) astigmatism (5%) and hyperopia or presbyopia (25%). Only 331 priests were over 40 years old. Their eye health status were different from the 268 priests and novices in rural area that came for eye examination in The First National Survey of Visual Impairment Program in Thailand from 22 provinces (Table 4). Their mean age was 48.5 years; 24.62% of them were in 41-50 years old age group and 64.92% in the more than 40 years old group. The result showed that the most common eye diseases was refractive errors (39.68%), follow by cataract (17.8%) , glaucoma (5.55%), and vitreoretinal diseases (5.15%) included diabetic

Table 3. Previous eye diseases and new eye diseases after complete investigation of appointed cases

Ranking of common eye diseases*	Previous cases	New cases	Total
Refractive error	204	90	294
Cataract	21	20	41
Glaucoma	3	7	10
Diabetic retinopathy, Branch vein occlusion	2	3	5
Macular Degeneration	0	3	3
Ocular hypertension	0	3	3
Refractive amblyopia	0	3	3

*Some priests had more than one disease

Table 4. Comparison of eye diseases of the priests and novices in central Bangkok and rural areas

Age range (years)	Eye diseases (Prevalence : 100)							
	Cataract		Glaucoma		DR + AMD +BRVO		Refractive error	
	BKK	Rural	BKK	Rural	BKK	Rural	BKK	Rural
Less than 40	0.13	0.37	0.00	1.34	0.00	0.00	18.25	24.65
41-50	3.09	2.73	1.03	5.48	1.03	0.37	35.05	19.18
51-60	10.99	18.97	2.20	12.07	2.20	0.49	40.66	32.76
61-70	27.39	40.00	5.80	8.57	5.80	5.71	42.03	34.29
71-80	42.81	65.38	5.26	3.85	3.51	3.85	45.61	7.69
More than 80	11.76	33.33	0.00	0.00	0.00	33.33	29.41	33.33

Table 5. Non-communicable eye diseases of Out Patient Department of Priest Hospital[12]

Diseases	2001	2002	2003	2004	2005	2006	2007
Hypertension	3,370	3,508	3,426	3,185	3,935	3,539	3,339
Pulmonary diseases	2,764	2,912	2,703	2,585	2,272	2,260	2,103
Diabetes	2,683	2,873	3,249	3,153	3,315	3,203	3,550
Cataract	2,442	2,350	2,861	2,766	2,561	2,714	2,674
Coronary diseases	543	370	386	366	370	285	181
Glaucoma	520	696	883	882	810	957	684

Table 6. Non-communicable diseases of In Patient Department of Priest Hospital[12]

Diseases	2001	2002	2003	2004	2005	2006	2007
Hypertension	211	236	242	220	287	258	297
Pulmonary diseases	304	364	344	324	319	307	335
Diabetes	366	399	422	395	409	454	518
Cataract	715	829	1,067	826	900	1,051	1,239
Coronary diseases	61	58	54	62	55	51	47
Glaucoma	31	48	74	57	121	156	115

Table 7. Spearman's correlation coefficient of smoking and disease in the priest (n = 1,097)

Disease	Spearman's correlation coefficient	Significance (2-tailed)
Pulmonary disease	0.032	0.296
Bone and joint disease	0.045	0.138
Ear, nose, throat	-0.002	0.958
Cardiovascular disease	0.016	0.596
Liver disease	0.107	0.568
Cataract	0.108	0.000
Gout	0.045	0.141
Hypertension	0.072	0.019
Mental, emotional disorder	0.022	0.471
Diabetes	0.028	0.364
Allergic disease	0.091	0.003
Asthmatic bronchitis	0.002	0.957
Paresis and paralysis	0.082	0.007

retinopathy and aged-related macular degeneration. Corneal scar (due to trichiasis and trauma), which was second common in the third national survey of blindness in 1994, decreased to 1.98% in this study.

Visual impairment due to uncorrected refractive errors is a common condition in all age group. Providing appropriate refractive correction to those who need it is an important public health endeavor with implication for safety, improved quality of life, and living independency. Cataract remains the major cause of blindness in Thailand[11], similar to other less developed countries. If no additional action is taken, the number of blind from cataract will steadily increase, mainly because of population growth and aging. The early detection and management of open-angle glaucoma stills poses a major problem in developing countries, and further development of appropriate technology is needed in this field. Another area where more efforts are needed is ocular trauma, which is common cause of unilateral loss of vision. As non-communicable diseases (NCD) are increasing worldwide, the disease pattern in the priests are on the same trend (Table 5, 6)[12]. For NCD, prevention is much more cost-effective than treatment and can be applied to eye diseases. Health education for general preventive measures must be enforced and better training provided to health personnel to deal competently with such cases to prevent complications. Diabetes is on the increase in many developing countries, giving rise to problems in dealing effectively with the ensuring retinopathy[13]. Substantial efforts should be made to make appropriate eye care accessible and affordable to all those in need. Effective eye health promotion involves a combination of three components as:

a) health education directed at behavior change to increase adoption to preventive behavior and uptake of services

b) improvements in health services such as the strengthening of patients' education and increasing accessibility and acceptability

c) advocacy for improved political support for blindness prevention policy[14].

Changes in the world order and technology during the last half-century have revolutionized approaches to blindness prevention and sight restoration. Although the possibilities have improved and increased immeasurably, unnecessary blindness will remain common, especially among the poor; unless a concerted international effort is made to prevent it[15,16]. Eye health promotion is one strategy for health promotion that started in 1986[17]. Health promotion cycle starts with awareness of eye diseases and risk factors[18,19], then with the distributing of health education[20], and finally expand to community participation to complete the cycle[21,22].

Conclusion

Most of the priests and novices in Bangkok had good eye health. More than half of the eye problems were refractive errors. This issue emphasized the importance of providing proper refraction and free of charge spectacles for disadvantaged priests and novices so they would be able to study Tripitaka and Buddhist teaching material including other knowledge departed from Buddhism. In addition, they would be able to transfer Buddha teaching and act as smart successor in Buddhism. Since most of the eye diseases reported in priests were associated with aging such as glaucoma and cataract, or vitreoretinal diseases as comorbidity of systemic diseases of hypertension, diabetes, and ischemic heart disease, regular ophthalmic examinations in this group is recommended. Smoking should be prohibited because of its close associated with many diseases and eye diseases. However, this is only a preliminary report of the priest and novices population in central Bangkok, many priests and novices in outskirts of Bangkok and rural part would need thorough ophthalmic examinations to evaluate their eye health status for eye health planning for the priests all over Thailand.

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สภาวะสุขภาพตาของพระสงฆ์และสามเณรในกรุงเทพมหานคร

สมบัติ ศรีสุวรรณภรณ์, สุคนธา ปัทมสิงห์ ณ อยุธยา, โสพส วุฒิพันธุ์, สุวิช รัตนศิรินทรวุธ, นิศา โสธรวิทย์, วัฒนีย์ เย็นจิตร, เฉลา พงศ์ประยูร

ภูมิหลัง : *สภาวะสุขภาพทางตาของพระภิกษุและสามเณร ถ้าได้รับการดูแลให้ความสนใจตั้งแต่เริ่มมีอาการ จะลดปัญหาโรคตาที่รุนแรงลงได้มาก รวมทั้งป้องกันการสูญเสียตาอย่างถาวรได้ กลุ่มงานจักษุวิทยา โรงพยาบาลสงฆ์ จึงไปออกหน่วยเพื่อสำรวจสุขภาพตาของพระภิกษุและสามเณรในกรุงเทพ ฯ และภูมิภาค*

วัตถุประสงค์ : *ต้องการทราบสภาวะสุขภาพตาของพระสงฆ์ และสามเณรในกรุงเทพ ฯ พร้อมทั้งให้คำแนะนำรักษาโดยทีมพยาบาลจักษุ และจักษุแพทย์ มีการให้ความรู้โรคตาเพื่อไปถ่ายทอดแก่พระภิกษุอื่น ๆ และญาติโยม รวมทั้งวางแผนเพื่อการป้องกันตาบอดและส่งเสริมสุขภาพตาแก่พระสงฆ์และสามเณรในระยะยาว*

วัสดุและวิธีการ : *กลุ่มงานจักษุวิทยาได้ออกไปร่วมสำรวจสภาวะทางตาในโครงการเชิงรุกเพื่อพัฒนาสุขภาพพระสงฆ์-สามเณร ให้ยั่งยืนแบบองค์รวม โดยการวัดสายตา วัดความดันตา และตรวจความผิดปกติของตา เมื่อพบว่ามีความผิดปกติทางตาในพระสงฆ์และสามเณรจะนัดมาตรวจอย่างละเอียด ให้การรักษาผ่าตัดตามโรคที่ตรวจพบ ให้แว่นตาโดยการสนับสนุนของมูลนิธิโรงพยาบาลสงฆ์ รวมทั้งให้คำแนะนำในการส่งเสริมสุขภาพตา*

ผลการศึกษา : *โครงการเฉลิมพระเกียรติ ฯ มีพระสงฆ์และสามเณรมารับการตรวจทั้งสิ้น 1,122 รูปมาวัดสายตา 938 รูป มาตรวจตาเป็นข้อมูลที่จะนำมาวิเคราะห์ได้ 649 รูป พบว่ามีสามเณรมาตรวจตา 201 รูป คิดเป็น 30.97% มีพระสงฆ์มาตรวจตา 448 รูป คิดเป็น 69.03% อายุตั้งแต่ 9-92 ปี เฉลี่ย 34.1 ปีพบว่าพระสงฆ์และสามเณร 355 รูป มีระดับสายตาดีเป็นปกติ(20/20) คิดเป็น 54.69% มีโรคตาที่พบมากที่สุด คือ สายตาผิดปกติ จำนวน 294 รูป คิดเป็น 45.3% รองลงมา คือ ต้อกระจก 41 รูป คิดเป็น 6.32% ต้อหิน 10 รูป คิดเป็น 1.54% โรคจอประสาทตาและน้ำวุ้น 8 รูป คิดเป็น 1.23% ความดันตาสูงแต่ยังไม่เป็นต้อหิน 3 รูป เท่ากับสามเณรเป็นสายตาขี้เกียจจากการไม่มีแว่นตาใส่ 3 รูป คิดเป็น 0.46%*

สรุป : *สภาวะสุขภาพตาของพระสงฆ์และสามเณรอยู่ในเกณฑ์ดี ประมาณครึ่งหนึ่งมีสายตาปกติ ความผิดปกติของสายตาที่พบจำนวนมากทำให้ทราบว่า ถ้าจะให้บริการทางตาแก่พระสงฆ์และสามเณรให้ได้ผลดีต้องมีการวัดแว่นและแจกแว่นตาราคาประหยัดแก่พระสงฆ์และสามเณรที่ขาดแคลนปัจจัย เพื่อให้อ่านหนังสือได้ศึกษาพระธรรมวินัยและถ่ายทอดแก่พุทธศาสนิกชน นอกจากนี้พระสงฆ์ที่มีความดันโลหิตสูง เบาหวาน และโรคหัวใจ ควรมารับการตรวจตาอย่างสม่ำเสมอ เพราะมักมีโรคทางตาโดยเฉพาะ ต้อหิน และโรคจอประสาทตาร่วมด้วย อย่างไรก็ตามรายงานนี้เป็นเพียงรายงานเบื้องต้น ยังมีพระสงฆ์และสามเณรอีกเป็นจำนวนมาก ส่วนใหญ่เป็นผู้สูงอายุในวัดชานเมืองกรุงเทพ ฯ และในต่างจังหวัดที่ต้องมารับการตรวจอย่างละเอียด เนื่องจากพบว่ามีความผิดปกติในช่วงคัดกรองโรคตาในกลุ่มผู้สูงอายุมาก*