Diabetic Retinopathy in Priest Hospital

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Background: *Diabetic retinopathy (DR) is common complication of DM and is one of the leading causes of visual loss in working age population in developed and developing countries. The known risk of retinopathy is directly related to the degree and duration of hyperglycemia. Priests are one of the disadvantageous groups because they cannot select their food and have poor access to health care. These two reasons are suspected to be causes of high prevalence of DM and DR in the priests.*

Objectives: *To perform complete eye examinations and take fundus pictures at DR screening to estimate the prevalence of DR in the priests and to perform appropriate treatment.*

Material and Methods: *Retrospective review of the medical records of the priests and novices who had diabetes in Priest Hospital between October 2005 and September 2007 was done. Appointment for crosssectional DR screening for those who never had an eye exam and to complete DR treatment.*

Results: *Four hundred and fourteen diabetic priests and novices were enrolled in the study with the mean age was 61.65 years. Only 297 (71.74 %) of the diabetic priests had a visual acuity measurement previously. DR screening program was done in 176 priests. The result revealed that 123 priests had no DR (69.89 %), 33 (18.75%) had non-proliferative DR (NPDR), 20 (11.36%) had proliferative DR (PDR), and 11 (6.25% or 33.33% of NPDR) had clinically significant macula edema (CSME). From the previously diagnosed patients, 15 (28.3%) had Laser treatment performed and 2 (3.77%) had pars plana vitrectomy (PPV).*

Conclusion: *Although Priest Hospital sent DR screening postcards to diabetic priests twice, only 176 (42.51%) priests came, and of those, 53 (30.11%) had DR. There is poor co-operation from the priests because of their lack of medical knowledge about DM complication and DR. The priest who came for the appointment were concerned with their health therefore, they had low prevalence of DR with moderate glycemic control. DR in the priests led to low vision (11.83%) and blindness (5.92%). For the priests, adherence to clinical guidelines for glycemic and BP control was low, even in a well-developed health care system with free ophthalmic care access because they cannot select their food and have poor transportation services to health care facilities.*

Keywords: *Prevalence, Diabetic retinopathy (DR), Priests , Novices, Risk factors, Duration, Hyperglycemia, Hyperlipidemia, Control of BP*

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Diabetic retinopathy (DR) and diabetic nephropathy (DN) are the most common microvascular complications of diabetes. DR is one of leading causes of legal blindness, new blindness, and visual impairments among adults aged 20-64 years[1], both in developed and developing countries[2]. Additionally, DN is a major cause of end-stage renal diseases. In developing countries, rates of unrecognized and untreated eye diseases among diabetic group with free medical benefits or fee-for-service health insurance are significantly high[3].The new registrations proportions of blindness and low vision, owing to glaucoma, diabetic retinopathy, age-related macular degeneration have changed significantly since 2000; the proportion due to DR has increased[4]. In Thailand, DR screening has been provided in many university, regional and provincial hospitals in many provinces since 1990[5-10].

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Previous reports revealed that the prevalence of DR will increase with duration of diabetes, glycemic control and associated diseases such as high blood pressure and hyperlipidemia. After 20 years of diabetes, nearly 99% of patients with type 1 and 60% with type 2 have some degree of DR, and 3.6% of type 1 and 1.6% of type 2 were found to be legally blind[11]. The average prevalence of NPDR and PDR in Thailand were 12-25.3% and 1.9-5.2% respectively. Diabetic macular edema (DME) or Clinical Significant Macular Edema (CSME) is the major cause of vision loss in patients with DR. The prevalence in Thailand was 1.1%[6].

Because Thai Buddhists give high respect to the priests, they give their best food, thus the food with high calories. Furthermore, because the priests cannot have food after lunch, some will eat a lot at lunch. This leads to high prevalence of diabetes. No previous report of DR in the priests was published, so the Department of Ophthalmology, Priest Hospital conducted a cross-sectional DR screening in diabetic priests who attended the medical and surgical clinic. The criteria for good glycemic control was fasting blood sugar 120-150 mg% (according to age). Optimal glycosylated hemoglobin (HbA1C) was defined as

Table 1. Number of diabetic priests with previous eye examination and DR screening in Priest Hospital

Age range(years)	Diabetic priests		Diabetic priests with previous eye examination		Diabetic priests with DR screening	
	Number	Percent	Number	Percent	Number	Percent
20 and less	1	0.24	-	-	-	-
21 – 30	6	1.45	4	66.66	2	0.48
31 – 40	15	3.62	12	80.00	8	53.33
41 – 50	54	13.04	39	72.22	25	46.29
51 – 60	117	28.26	84	71.79	49	41.88
61 – 70	110	26.57	79	71.82	51	46.36
71 – 80	90	21.74	61	67.77	35	38.88
More than 80	21	5.07	18	85.71	6	28.57
Total	414	100.00	297	71.73	176	42.51

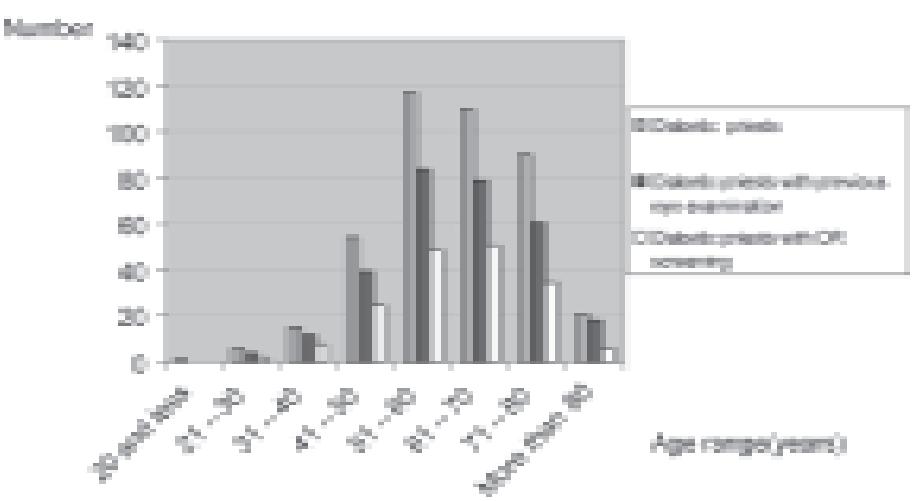

Fig. 1 Comparison between diabetic priests who had visual acuity checked and priests with DR screening

levels of less than 7%, and optimal blood pressure (BP) control was defined as systolic/diastolic less than 130/80 mmHg. From questionnaire, the priests preferred to go to optical shop when they had blurred vision and had eye glasses made. The optical shops in Thailand are not controlled by government or Ministry of Public Health. It is impossible to ascertain the current knowledge among optometrists or optician regarding DR, which is not different from other countries[12,13]. They need correction or eye health education[14]. It was accepted that DR, especially in its more advanced stages of Type 2 DM, was associated with an increased cardiovascular diseases incidence, independent of other known cardiovascular risk factors[15]. However, no previous report about this relation exists in the priests.

Objectives

The purpose of this study was to assess the prevalence of DR and CSME in the priests and to perform treatment by laser photocoagulation and pars plana vitrectomy. The associated eye diseases such as cataracts, glaucoma and other retinal vascular diseases were treated. The prevalence of DM complication and other comorbidity were also studied.

Table 2. Duration of diabetes of the priests in Priest Hospital (n = 148)

Duration (year)	Number	Percent
1 - 2	42	28.38
3 - 5	36	24.32
6 - 10	30	20.27
10 -15	20	13.51
15 - 20	12	8.11
More than 20	8	5.41
Total	148	100.00

Table 3. Fasting blood sugar level at starting treatment and last follow up

Fasting blood sugar (mg. %)	Starting treatment	Last follow up
120 and less	-	71
121 - 150	28	90
151 - 200	38	54
201 - 250	31	39
251 - 300	19	31
301 - 350	26	24
351 - 400	8	22
400 - 500	11	11
More than 500	13	11
Not know	240	61
Total	414	414

Methods

Medical records of diabetic priests were reviewed. The DR screening team sent postcards with an appointment to come for an eye examination in Priest Hospital to all the priests whose records showed an incomplete or a lack of eye examination.

For eye examination, the team used the visual acuity (VA) check by Snellen chart at 20 feet, intraocular pressure (IOP) measurement by pneumotonometer and repeated by Goldmann applanation tonometer if the IOP was abnormal. Anterior and posterior segment examination were done by slit-lamp, pupillary dilatation, indirect ophthalmoscopy and +78 diopters lens. Fundus pictures were taken when there was no cataract. DR grading was done using the International Clinical Diabetic Retinopathy and Diabetic Macular Edema diseases severity scales[16]. After diagnosis, laser treatment and PPV were done according to the Clinical Practice Guidelines of DR[1].

Results

Among 414 diabetic priests, 297 used to have visual acuity checked but only 176 (42.51%) came for DR screening (Table 1). Diabetic with duration of 1-2 years were the most common (28.38%), about half (53.70%) had DM for 1-5 years and only 5.41% had diabetes duration more than 20 years (Table 2). More than half (57.97%) of the priests did not know their first diagnosed fasting blood sugar (FBS). One-third (33.33%) had FBS more than 300 mg% when they received first treatment and 38.88% could be controlled after treatment (Table 3). Because Type 2 DM were more common in the priests, the most common treatment was oral hypoglycemic drug, which 45.45 % could be controlled (Table 4). One hundred seventy six patients with DM had a record of HbA_1C. Of these, only 23.29% had an optimal HbA_1C level (Table 5). Priests with longer diabetes duration were less likely to attain optimal HbA_1C level. The cases with poorly controlled FBS would have abnormal lipid profile (Table 6). For comorbidity and complication of DM, hypertension and diabetic ulcer were common, followed by ischemic heart disease and neuropathy (Table 7). After adjusting for

Table 4. Method to control blood sugar (n = 353) and result of treatment (n = 297)

Age range (year)	Method to control blood sugar				Result of treatment		
	Oral med.	Insulin Injection	Combine oral and injection	Diet Control only	Controlled DM	Non-controlled DM	Not known
21 - 30	3	1	-	-	2	1	1
31 - 40	6	3	2	-	6	5	1
41 - 50	42	7	-	2	16	21	2
51 - 60	98	13	5	1	40	42	2
61 - 70	81	6	-	-	36	31	12
71 - 80	65	1	1	-	31	30	-
More than 80	12	2	2	-	4	9	5
Total	307	33	10	3	135	139	23

Table 5. Glycosylated hemoglobin (Hb A,C) during last follow up of diabetic cases with DR screening (n = 176)

Hb A,C	Number	Percent
7 and less	41	23.29
7.1 - 7.5	26	14.77
7.6 - 8.0	19	10.79
8.1 - 8.5	10	5.68
8.6 - 9.0	8	4.55
9.1 - 10.0	8	4.55
More than 10	14	7.95
Not known	50	28.41
Total	176	100.00

age and controlling other risk factors, the association of DR remained significant for ischemic heart disease. Optimal BP control was attained in only 50% and was associated with younger age group. The visual acuity of better eyes were in a good range (20/20-20/40) up to 54.37%. Low vision and blindness (based on WHO definition) was 11.83% and 5.91%, respectively (Table 8). One hundred twenty three priests had no DR (69.89%), 18.75% had NPDR, 11.36% had PDR, and 6.25% had CSME (Table 9). Prevalence of CSME was 2.84% and 3.41% for the younger than 60 years and older than 60 years, respectively. In a group with known duration of DM, DR was correlated with duration of being diabetic (Table 10). Because some diabetic priests had been previously diagnosed and had received some laser treatment, only 15 cases (28.30%) received additional laser treatment and two cases (3.77%) received pars plana vitrectomy (PPV). Associated eye diseases due to diabetes on the elderly priests who came for DR screening were non-blinding cataract and pseudophakia, which were found in 65.34% and 10.23%, respectively. Furthermore, aphakia was found 1.70% and Glaucoma was found in 3.41%, which more likely to be secondary glaucoma from ischemic or neovascular glaucoma.

Discussion

The conventional system of eye examination with pupillary dilatation is a gold standard to diagnose DR. However, nowadays the imaging system has replaced some of this, especially for screening. The single field fundus photography is not always able to detect early retinopathy and maculopathy[17]. Mydriatic drop will increase efficacy and accuracy. While fundus photography is not a substitute for a comprehensive ophthalmic examination, it could serve as a screening tool for health station without ophthalmologists or optometrists to refer patients for complete eye examination. Tele-transmission to a reading center, when available, would prove to be a feasible valid method for early detection of DR[18]. Digital imaging technology, a cost-effective[19] tool in the primary care visit, can significantly improve screening rates over conventional methods. Prompt treatment, increase access to recommended diabetic eye care, and focus on those with the greatest need[20] such as the priests with transportation barrier has been introduced and accepted[21] in Thailand.

Overall prevalence of DR in the priests who came for DR screening was low due to their short

Table 6. Associated dyslipidemia when compare to last fasting blood sugar (n = 260)

Last FBS (mg %)	Normal lipidemia		Abnormal lipidemia		Total
	With antilipidemia agent	Without Antilipidemia agent	With Antilipidemia agent	Without Antilipidemia agent	
120 and less	6	6	1	3	16
121 – 150	12	1	16	45	74
151 – 200	5	1	20	11	37
201 – 250	3	-	11	21	35
251 – 300	2	-	13	12	27
301 – 350	1	-	7	13	21
351 – 400	13	-	3	5	21
More than 400	4	-	1	5	10
Not known	3	-	16	-	19
Total	49	8	88	115	260

Table 7. Co-morbidity and medical complication of diabetic priests with DR screening (n = 176)

Co-morbidity and complication*	Uncontrolleddiabetes		Controlled diabetes		Total
	Number	Percent	Number	Percent	
Hypertension	53	26.37	29	34.94	82
Diabetic ulcer	30	14.93	10	12.05	40
Ischemic heart diseases	26	12.94	8	9.64	34
Neuropathy, numbness	21	10.45	13	15.66	34
Cerebral, CVA, Cranial Nerve palsy	14	6.97	2	2.41	16
Asthma, tuberculosis, COPD	10	4.97	5	6.02	15
Nephropathy	9	4.48	5	6.02	14
Other**	10	4.97	6	7.23	16
No complication	28	13.93	5	6.02	33
Total	201	100.00	83	100.00	284

*many priests had more than one co-morbidity/medical complication
**other were gastritis, dermatitis, gouty arthritis, hepatitis

Table 8. Best corrected visual acuity of better eye of diabetic priests in Priest Hospital

Visual acuity	Number	Percent
20/20 – 20/40	193	54.37
20/50 – 20/70	99	27.89
20/100 – 20/200 (low vision)	27	7.60
19/200 – 10/200 (low vision)	15	4.22
9/200-Count finger (blind)	10	2.82
Hand motion (blind)	2	0.56
Light perception (blind)	9	2.54
Total	355	100.00

duration of diabetes (5 year and less). NPDR and PDR were found even in the group of 1-2 years duration, which may be explained by late diagnosis. Many priests had diabetes for few years before they noticed their blurred vision and decided to see a doctor. Others had numbness of hands and feet before seeking medical advice. Fong[2] stated that up to 21% of patients with type 2 diabetes had retinopathy at the time of first diagnosis. Not too many priests in the group of duration longer than 16 years participated in the study. This may be due to their short life span or their transportation barrier. Many postcards for appointment were sent back due to patients' death. As Table 10 shows, 53.97% of

the priests had developed some retinopathy within the first 5 years after the diagnosis of DM but only 22.15% had received a previous fundus examination. After DR intervention with internists, 71.73% of diabetic priests had visual acuity measurement. After sending the postcards for DR screening appointment, only 42.51% came, which correspond to other study[22] showing that patients do not follow the guidelines of DR check-up. Therefore, optimal DR screening programs for priests with Type 2 diabetes should focus on priests with first diagnosis and of duration of 5 years or less. Even in some developed countries, 43 % of diabetic cases were not systematically screened for DR[23].

During DR screening, most priests came from Bangkok and nearby provinces. The reasons may be that every province in Thailand has an eye unit and DR screening could be performed locally, or the priests did not recognized the benefit of DR screening. This may be because the priests were satisfied with their vision and therefore neglected eye examination. Those who came from the far provinces were referred cases for cataract surgery with intraocular lens implantation, laser treatment and PPV for vitreous hemorrhage and traction retinal detachment.

During DR screening, 54.37% of diabetic priests had good vision, 11.83% had low vision, and 5.91% were blind. Visual loss due to DR results from several mechanisms. A lower rate of visual lost could be found in a group of diabetic priests with awareness of DR and regular surveillance[24]. Central vision may be impaired by CSME or capillary non-perfusion. CSME is the leading retinal complication and one of the causes of visual loss in first world countries and the first cause in DR visual impairment[25] especially in Type 2 DM[26] and older-onset[27] diabetes mellitus. The Early Treatment Diabetic Retinopathy Study[28] showed a

Table 9. Diabetic retinopathy in Priest Hospital (n = 176)

Age range(year)	No diabetic retinopathy retinopathy	Non-proliferative diabetic retinopathy	Proliferative diabetic edema	Clinical significant macular	Total
21 - 30	3	-	1	-	4
31 - 40	3	1	4	-	8
41 - 50	16	6	2	2	24
51 - 60	37	5	6	3	48
61 - 70	35	10	5	4	50
71 - 80	23	9	2	2	34
More than 80	6	2	-	-	8
Total	123	33	20	11*	176

*Few NPDR patients had CSME

Table 10. Diabetic retinopathy and duration of diabetes of priests who had DR screening (n = 148)

Duration (year)	No diabetic retinopathy	Non-proliferative diabetic retinopathy	Proliferative diabetic retinopathy	Total	Percent of DR according to duration
1 - 2	31	9	2	42	26.19
3 - 5	26	6	4	36	27.78
6 - 10	19	5	6	30	36.67
11 - 15	12	5	3	20	40.00
16 - 20	7	4	1	12	41.67
More than 20	4	3	1	8	50.00
Total	99	32	17	148	33.11

significant benefit in using focal laser photocoagulation for the treatment of CSME. In priest Hospital, focal laser photocoagulation was performed after pan retinal photocoagulation did not get satisfied vision. In this study, many priests had previous laser treatment, so CSME was found in only 6.25%. Nevertheless, progressive visual loss was found in priests with CSME treated with photocoagulation. The intravitreal injection of corticosteroids with antiangiogenic and antiedematous properties (Triamcinolone acetonide) was used for CSME[29]. Publications evaluating the safety and efficacy showed varying outcomes with respect to the increases of visual acuity and decreases in foveal thickness. It had evolved quickly and was considered increasingly useful in applying to the priests.

For NPDR and PDR, The Diabetic Retinopathy Study demonstrated the ability of panretinal photocoagulation (PRP) to reduce the rate of severe visual loss by 50% for eyes with high-risk characteristics. The Early Treatment Diabetic Retinopathy Study[28] showed that patients with type 2 DM who were older than 40 with severe NPDR also benefited from early PRP. The Diabetic Retinopathy Vitrectomy Study showed that early PPV (within 6 months of onset of vitreous hemorrhage) was associated with better results in type 1 DM patients only[30]. For the diabetic priests, more than half had previous laser treatment therefore, after DR screening, laser treatment and PPV were seldom performed. Laser photocoagulation treatment soon after the onset of PDR significantly reduces the incidence of severe vision loss. However, the optimal timing for laser treatment for the priests is frequently passed and in addition, it is not uniformly successful in halting visual decline as seen in another report[31]. The presence of CSME may identify individuals who received care for detection and treatment of cardiovascular disease but not significantly associated with stroke mortality[15,32].

For ocular co-morbidity, most of glaucoma cases were neovascular glaucoma, which was simple to diagnose and the result of the treatment was the same as advanced POAG. For early detection of POAG, apart from gonioscopy, optic disc and visual field evaluation, Optical Coherence Tomography (OCT) was used in Priest Hospital. Investigation of the impact of DR on quantitative retinal nerve fiber layer (RNFL) was done using the assessment and diagnostic power for glaucoma by OCT. The result showed that OCT parameters did not detect significant differences between age-matched healthy and diabetic eyes. Because the priests who came for DR screening are the elderly, cataract and pseudophakia were common and could not showed correlation to diabetes. Only close follow-up after cataract surgery and more intensive anti-inflammatory eye drops will improve surgical results. The studies[33] showed that diabetic pupulation are affected by many eye disorders other than DR and regular eye examination should be part of diabetic care.

To maintain good vision, a tight control of both blood glucose levels and hypertension are essential to prevent or arrest progression of DR[34]. However, the recommended goals are difficult to achieve in many priests. For medical co-morbidity, both essential hypertension and diabetes mellitus affect the same major target organs. The common denominator of hypertensive/diabetic target organ-disease is the vascular tree. Left ventricular hypertrophy and coronary artery disease are much more common in diabetic hypertensive priests than in priests suffering from hypertension or diabetes alone. The combined presence of hypertension and diabetes concomitantly accelerates the decrease in renal function[35], the development of DR, and the development of cerebral diseases. In the priests, after medical control, their blood pressure could be lower to less than 130/80mm Hg, which is the primary goal in the management of the hypertensive diabetic patients. Aggressive control of blood pressure, cholesterol, and glucose levels should be attempted to reduce the cardiovascular risk of diabetic hypertensive patients[36]. In this study, 46.59% of diabetic priests had hypertension, 19.32% had coronary diseases and equal to neuropathy, 7.95% had nephropathy. Poorly control of BP in diabetic priests was associated with increased disability and death from cardiovascular diseases. Obesity is considered as risk factor for DR in type 2 DM because it leads to poor metabolic control and high systolic BP.

It was known that the severity of DR is associated with a graded, increased risk of death from coronary artery disease and myocardial infarction. Furthermore, coronary artery disease complicating DR is often under-diagnosed, and all DR patients should undergo screening for coronary artery disease followed by early intervention. Diabetic priests with visual disability are more likely than those without disability to have cluster of risk factors for heart disease and stroke. Health care guidelines may be needed to assist health care providers in addressing these risk factors especially in underprivileged group and the priests.

The percentage of priests treated with oral hypoglycemic drug was 86.97%, insulin was 9.35%,

combine oral and insulin was 2.83%, and diet control was only 0.85%. Target glycemic control was achieved in 45.45%, which were equal to other study[37]. Better strategies for glucose control of diabetic priests should be encouraged to prevent long-term complication. Vitamin B12 levels and testing for peripheral neuropathy should be done to exclude B12 malabsorption, which was a side effect of metformin. Unlike Type 1 DM, peripheral neuropathy can be present soon after diagnosis in those with Type 2 DM and found 19.32% in the priests.

Elevated Low Density Lipoprotein (LDL) was the most common lipid abnormality. Although 52.69% of the patients were taking antilipidemic agents, only 21.92% of their lipid could be controlled. Another 42.23% of the priests needed antilipidemic agents, which equal to the other study in Thailand[38].

For laboratory test, not only FBS were needed but also glycosylated hemoglobin (HbA_1C). From the questionnaire, fewer priests (< 10%) understood HbA_1C when compared with another study[39] stating that half understood. In some hospital of Thailand, the number of patients with HbA_1C of less than 7% was 8% in 1997 and gradually increased to 40% in 2003[40] after following the treatment protocol of Diabcare-Asia.

Amputation is the strong predictor for mortality for Type 1 and Type 2 DM[28] and most of the priests were DM Type 2. The priests who came for DR screening were the group of interested in their general health, more aware of the importance of eye examination to avoid blindness or visual loss, and did not received amputation. Thai protocol[41] to take good care of diabetic feet was applied and got poor result in the priests. This may be due to their regulation not to use shoes or slippers during walking for food in the morning. Eye health promotion activities need to broaden their reach to approach from outside the health sector, targeting priests with diabetes who normally do not receive health checks. Finally the importance of dilated eye examination for diabetic people and barriers for DR screening needs attention from eye care providers[42-44]

Conclusion

In addition to the longer duration of DM, FBS at baseline or first visit, poorly glycemic control, elevated serum lipid and altered systolic BP may increase the risk of DR. DR, nephropathy, and neuropathy were frequently found together. Despite the demonstrated benefits of tight glucose, BP and lipid control in reducing the risk of DR, the result of screening in the priests suggested that treatment targets are not being met in a large proportion of diabetic priests. Compared with normal population, the priests with diabetes were less likely to use their governmental health insurance for eye examination and did not know their rights. The DR screening were limited to the newly diagnosed group and more likely to use oral hypoglycemic drug. Considerable effort is required to improve awareness of DR and to translate this improved awareness to actual utilization of services. The ophthalmic surveillance was more appropriate but has less access by the priests who have limited knowledge in DM complication, especially DR. Though annual screening is proposed in guidelines, data for screening intervals are conflicting, suggesting individualized approaches especially in high-risk patients.

Data suggest high rate of unrecognized and untreated DR among poor socioeconomic priests or the diabetic priests from small temple or temple in suburb of Bangkok. There was a significant relationship between screening compliance and visual outcome in diabetic priests in our study. The key of success were the team approach, involvement of community leaders (priests master), voluntary organizations, and support of the district and state health administrators. DR is likely to pose a public health burden in Thailand due to late detection. If improvement of the efficacy of DR screening is anticipated, the targeting of this specific patient group should be prioritized.

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เบาหวานในจอประสาทตาของพระสงฆ์และสามเณรในโรงพยาบาลสงฆ์

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ภูมิหลัง : *เบาหวานในจอประสาทตา (DR) เป็นโรคแทรกซ้อนที่พบมากในผู้ป่วยเบาหวาน และเป็นสาเหตุที่ทำให้คนวัยทำงานสูญเสียการมองเห็นในประเทศที่พัฒนาแล้วและกำลังพัฒนา ปัจจัยเสี่ยงที่ทำให้เกิด DR ได้แก่การเป็นเบาหวานนานและการควบคุมระดับน้ำตาล พระสงฆ์ถูกจัดเป็นกลุ่มที่เป็นเบาหวานมาก เพราะไม่สามารถเลือกฉันอาหารได้และเข้าถึงบริการสุขภาพน้อย จึงมีปัญหาภาวะแทรกซ้อนและสงสัยว่าพระสงฆ์อาจมี DR มาก*

วัตถุประสงค์ : *ต้องการตรวจตาเพื่อคัดกรอง DR และหาความชุกของพระสงฆ์ที่มีภาวะแทรกซ้อนทางตาเพื่อทำการรักษา*

วัสดุและวิธีการ : *ทำการศึกษาย้อนหลังในพระสงฆ์และสามเณรที่เป็นเบาหวานมาตรวจที่ห้องตรวจผู้ป่วยนอกโรงพยาบาลสงฆ์ ตั้งแต่ ตุลาคม พ.ศ. 2548 - กันยายน พ.ศ. 2550 ผู้ที่ยังไม่เคยตรวจตาเพื่อคัดกรอง DR มาก่อนจะได้รับไปรษณียบัตรตามมาตรวจ 2 ครั้ง การตรวจจะตรวจอย่างละเอียดพร้อมทั้งถ่ายรูปจอประสาทตา*

ผลการดำเนินการ : *มีพระสงฆ์และสามเณรเป็นเบาหวาน 414 รูป อายุเฉลี่ย 61.65 ปี พระสงฆ์ 297 รูป เคยมารับการวัดสายตาและตรวจตา แต่ไม่ได้ตรวจจอประสาทตา เมื่อส่งไปรษณียบัตรไปตามมาตรวจเพื่อคัดกรอง DR มีพระสงฆ์มาตรวจ 176 รูป พบว่า 123 รูป (69.89%) ไม่มี DR, 18.75% มี NPDR, 11.36% มี PDR และ 6.5% มี CSME พระสงฆ์ส่วนหนึ่งเคยได้รับการรักษามาก่อน จึงมีพระสงฆ์เพียง 15 รูป (28.30%) ที่ต้องยิงเลเซอร์เพิ่ม และมี 2 รูป (3.77%) ต้องทำผ่าตัดน้ำวุ้นตา*

สรุป : *แม้ว่าทางโรงพยาบาลสงฆ์จะส่งไปรษณียบัตรไปตามถึง 2 ครั้ง พระสงฆ์ที่เป็นเบาหวานมาตรวจตาเพื่อคัดกรอง DR เพียง 42.51% และมี DR 30.11% คาดว่าเป็นเพราะพระสงฆ์ไม่มีความรู้เรื่องเบาหวานและโรคแทรกซ้อน จึงให้ความร่วมมือมาตรวจตาน้อย และกลุ่มที่มารับการตรวจเป็นกลุ่มที่สนใจเรื่องสุขภาพของตนเองและรักษาตัวค่อนข้างดี จึงมีความชุกของ DR น้อย อย่างไรก็ตามเมื่อพิจารณาตามเกณฑ์ขององค์การอนามัยโลก มีพระสงฆ์เป็นเบาหวานมีระดับสายตาบอด 5.92% และสายตาเลือนราง 11.83% การดูแลผู้ป่วยตามมาตรฐานและแนวทางการรักษาพยาบาลผู้ป่วยเบาหวานโดยเน้นการควบคุมระดับน้ำตาล ความดันโลหิต และไขมันที่จะทำให้พระภิกษุสงฆ์มองเห็นได้ดี*