Ear Diseases and Hearing in the Thai Elderly Population. Part I. A Comparative Study of the Accuracy of Diagnosis and Treatment by General Practitioners *vs* ENT Specialists

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Abstract

The prevalence of ear disease and hearing disability in elderly Thais in 14 urban communities around Siriraj Hospital was studied. The accuracy of diagnosis and treatment of common ear diseases and of screening for hearing loss in the elderly between general practitioners (GP) and Ear, Nose and Throat (ENT) specialists was also compared. Elderly people aged 60 years or more who had registered with the health care program had their ear and hearing check-up performed by GPs and ENT specialists from mobile team. Altogether, 980 subjects were included, 332 were males, 648 were females, (male : female ratio 1 : 2). Their ages ranged from 60-96 years with an average age of 68.5 years. The prevalence of ear disease diagnosed by ENT specialists was 16.3 per cent (95% CI = 14.0-18.6), 12.5 per cent was external ear disease and 2.7 per cent middle ear disease. The most common ear problem was impacted ear wax (8%), the second most common problem was otitis externa (4.3%). Compared with an ENT specialist, the ability of a GP to diagnose ear diseases had a sensitivity of 46.5 per cent and a specificity of 80.3 per cent, the positive predictive value of their diagnoses was 31.5 per cent. The efficacy of the treatment of ear diseases in 51 elderly people by GPs and in 63 elderly people by ENT specialists was statistically significantly different ($p = 0.02$).

Hearing screening by the GP using whisper or the watch test performed in 650 elderly people revealed abnormal findings (could not hear) in 70 cases or 10.8 per cent. Hearing screening using pure tone audiometry in 980 elderly people showed abnormal hearing level in 508 cases (52.4%). 9.5 per cent of them had a bilateral moderate to severe degree of hearing impairment. There was no difference in the level of hearing impairment between males and females or between right and left ears. The prevalence of hearing loss increases with increasing age. Tympanometry performed by an acoustic impedance machine in 980 of the elderly showed a conductive hearing loss in 85 cases (9.1%).

The authors conclude that the prevalence of ear disease in elderly people living in the urban community around Siriraj Hospital is quite high. Although the ear diseases commonly encountered were not serious, if left untreated they may lead to complication and decreased hearing. Therefore, the proficiency of GPs in the management of common ear diseases in every community should be regularly maintained. Hearing impairment is very prevalent and increases with age. Thus, screening for hearing loss using an audiometer and/or acoustic impedance is recommended for all senior citizens in their community at least once a year. Early detection of elderly persons who could benefit from a properly fitted hearing aid will certainly improve the quality of life and may prevent psychiatric and functional impairment of the Thai elderly population.

Key word : Ear Diseases, Hearing, Thai Elderly, Diagnosis and Treatment, GP *vs* ENT Specialist

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In the year 2000, the population of Thailand was 62.1 million of which 5.6 million were people aged ≥60 years old(1). The number of elderly people has increased rapidly worldwide due to improvements in health care. At present, the estimated life expectancy of a Thai male at birth is 71 years and of a Thai female at birth is 79 years. Therefore, the elderly population and the prevalence of diseases that commonly occur in the elderly is certain to increase.

Ear diseases and hearing disability are common problems in the elderly. Data from a survey in rural areas by the Otological Center, Bangkok Unit, reported in 1991 that the prevalence of ear disease in the Thai population aged 60 years and over was 10 per cent and the prevalence of hearing loss was 40.4 per cent(2). According to this data, about 560,000 Thai elderly people are suffering from ear disease and 2,262,400 of them are suffering from hearing disability.

Diseases of the external ear are usually not serious i.e. infectious otitis externa, non-infectious otitis externa and impacted ear wax. If the primary care physician or the general practitioner (GP), who are available in almost every community in Thailand, can diagnose and treat these problems effectively and can educate the people about prevention of ear disease, medical expenses will be reduced and the elderly will not have to suffer or have impaired quality of life because they have to wait until the symptoms are severe before being taken to a specialist in a secondary or tertiary care center. However middle ear diseases such as chronic suppurative otitis media, otitis media with effusion etc. and hearing disability need to be managed by ENT specialists. Nevertheless, if GPs can detect them early, they can be referred to ENT specialists before it is too late.

Therefore, the objectives of this study were (I) to find the prevalence of ear disease and hearing disability in an elderly Thai population living in the urban community around Siriraj Hospital in Bangkok, (II) to compare the accuracy of diagnosis and the efficacy of treatment of common ear diseases and the screening of hearing impairment in the elderly between GPs and ENT specialists.

MATERIAL AND METHOD

This study was part of a larger project "Integrated Health Research Program for the Elderly" (H.R.E.) 1997-1998 conducted in fourteen communities around Siriraj Hospital, Bangkok, through the leaders of those communities. A place and date/time were arranged for the survey team to visit the

communities every Wednesday. Announcements for elderly people to come for their ear and hearing check-up were made by poster, leaflets distribution and also direct contact by post-card to each elderly person.

The survey team consisted of GPs, ENT specialists, audiological technicians, nurses and nurse-aids. The equipment carried by the team were otoscopes, audiometers, acoustic impedance measuring equipment, a portable surgical microscope, a suction machine, an ENT examination set and a sphygmomanometer plus stethoscope. Basic medication for the mobile medical service of Siriraj Hospital and some otological preparations were also provided.

The medical history of every elderly person who attended was recorded by trained nurses. The GP examined their ears by otoscopy and screened their hearing by whisper or watch test. The ENT specialist also examined the person's ears by otoscopy and hearing disability was checked by audiometry and tympanometry. The GP and ENT specialist recorded their findings separately. The elderly people who had ear disease were alternately allocated for treatment by a GP or specialist. They were followed-up at 1-2 weeks to evaluate the results of treatment by one ENT specialist who did not know whether a GP or an ENT specialist had given the treatment. If the disease was not cured, they were further treated by an ENT specialist or were referred to Siriraj Hospital.

Thus, the prevalence of ear disease and hearing disability in the elderly was studied as a population-based study. The comparison of the accuracy of diagnosis and treatment of ear diseases by GPs and ENT specialists was performed as a randomized controlled study.

A flow chart of the study is shown in Fig. 1. The prevalence and types of ear disease and the results of screening test for hearing loss in the elderly performed by the GP were compared with those found by the ENT specialist. The results of treatment of ear disease in the group treated by the GP were compared with the other group treated by an ENT specialist.

Screening audiometry was performed in a quiet place which had an ambient noise level of <50 dBA (maximum ambient octave-band noise level allowable for American Speech and Hearing Association screening) using 3 audiometers (Interacoustics AS 208, AS 7M and AT 22) from Denmark. Only pure tone air conduction at 500, 1,000, 2,000, and 4,000 Hz was tested. The hearing level was averaged from the hearing threshold at all frequencies tested and only the hearing of the better ear was used for classification. Since the screening test was not performed in a sound proof room, the hearing level was defined by the following criteria :- normal $\leq$30 dB, mild degree of hearing loss 30$^+$ - 40 dB, moderate degree of hearing loss 40$^+$ - 70 dB, severe degree of hearing loss 70$^+$ - 90 dB, profound loss or deaf 90$^+$ dB[3].

As bone conduction was not performed by screening audiometry in the community because of the limitations of the ambient noise, acoustic impedance measurement was included to help differentiate conductive hearing loss from sensorineural hearing loss.

Acoustic impedance measurement was performed using a tympanometer (MADSEN AS 331) from Canada. The measurement of middle ear pressure is shown in a graph called a tympanogram. There were three types of tympanogram i.e. Type A = normal (middle ear pressure was between -100 to +100 daPa), Type B = flat tympanogram (usually occurs in middle ear effusion, ear drum perforation or impacted ear wax), Type C = negative pressure > -100 daPa (usually occurs in Eustachian tube obstruction). Type B and Type C tympanograms denote a conductive type of hearing loss[4].

Statistical analysis

The data were analyzed using the statistical packages for the social sciences (SPSS) program. Disease prevalence was calculated as a percentage of the total study population and the 95 per cent confidence interval was given for each prevalence. The significance of differences between variables was assessed by the Chi-square test or ANOVA test. The comparison of the diagnosis and treatment of ear diseases between GPs and ENT specialists was performed by the Mantel Haenszel test. Pearson's correlation was used to assess the correlation between hearing level and age of the subjects using a p-value of less than 0.05 as significant.

RESULTS

From December 17, 1997 to July 1, 1998, the survey team went to 14 communities, altogether 19 times. Of 2,271 elderly people registered to partici-

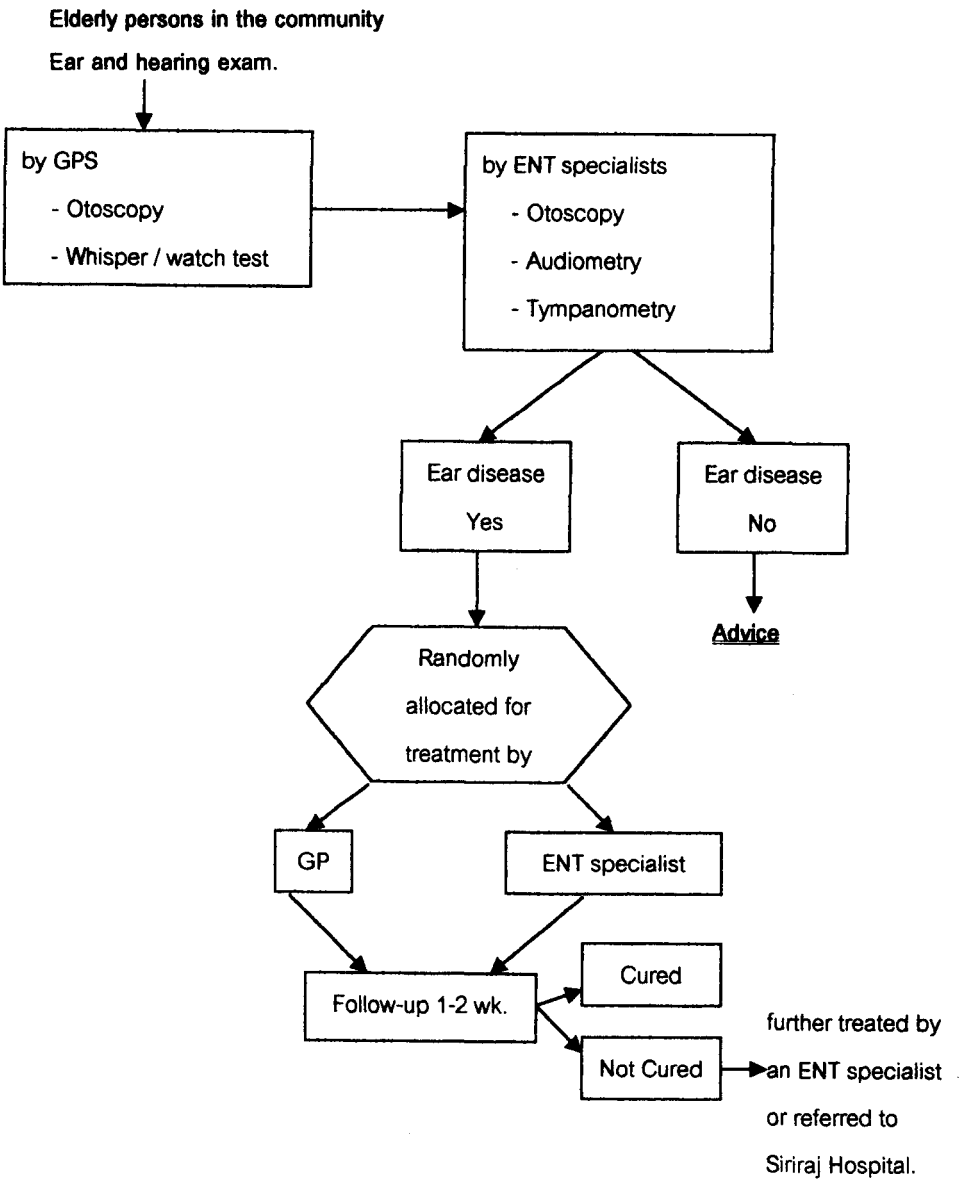

Fig. 1. A flow chart for the randomized controlled study to compare the diagnosis and treatment of ear disease between GPs and ENT specialists.

pate in the study, 980 persons came for ear and hearing check up. Therefore, the authors had examined 43.2 per cent of the total elderly population in those 14 communities. Upon statistical evaluation, the demographic data of the elderly people examined was not different from the data of the total elderly population, therefore, the group of elderly people who were included in this survey was representative of the whole population.

Of the 980 old people, 332 or 33.9 per cent were males, 648 or 66.1 per cent were females, so the ratio of male and female was 1:2. Their ages ranged from 60-96 years with an average age of 68.5 years.

History of ear and related symptoms is shown in Table 1 which revealed that the most common ear symptom was itchy ear (46.1%) followed by vertigo/dizziness (40.1%), hearing impairment

(33.7%) and noise in the ear (22.4%). Of interest, is the history of frequent colds which was quite high (37.8%) and might have had some effect on ear symptoms.

The prevalence of ear disease in 975 elders diagnosed by ENT specialists was 16.3 per cent with a 95 per cent confidence interval of 13.99-18.62. There was external ear disease in 12.5 per cent while 2.7 per cent were middle ear diseases. Impacted wax was the most common ear problem found (8%) with otitis externa as the second most common (4.3%). The types and frequency of all ear diseases found are shown in Table 2.

The ability of GPs to diagnose ear disease in the elderly when compared with the ENT specialist's diagnosis as a gold standard, gave a sensitivity of 46.5 per cent and specificity of 80.3 per cent. The positive predictive value (PPV) was 31.5 per cent and the negative predictive value (NPV) was 88.5 per cent (Table 3). This implied that if elderly people have ear disease, the GP will be able to detect it in 46.5 per cent of cases and if the GP diagnosed that the elderly person had an ear disease, the chance of giving a correct diagnosis was only 31.5 per cent.

One hundred and fifty of the elderly who had ear disease were divided randomly to receive treatment from a GP or an ENT specialist. Complete follow-up and adequate records for analysis were available in only 114 cases. Of these cases, 51 were treated by a GP and 63 by an ENT specialist. The results of treatment in these two groups were compared by the Mantel Haenszel test which showed a

Table 1. History of ear and related symptoms reported by 980 elderly people.

	n/N	%
Frequent ear itch	442/959	46.1
Vertigo/dizziness	382/952	40.1
"Hard of hearing"	326/966	33.7
Noise in the ear	219/978	22.4
Earache	70/976	7.2
Discharging ear	44/967	4.5
Ototoxic drug usage	31/907	3.4
Previous ear surgery	10/965	1.0
Frequent colds	365/965	37.8
Ear injury	76/924	8.2

n = elderly people who had symptoms; N = Total elderly people

Table 2. Types and frequency of ear diseases found in 975 elderly people.

	N	%
Impacted wax	78	8.0
Otitis externa	42	4.3
Dry perforation of TM	13	1.3
Congenital ear diseases	11	1.1
Chronic otitis media	10	1.0
Otitis media with effusion	3	0.3
Foreign body in the ear	1	0.1
Mass in the external canal	1	0.1
Total	159	16.3

TM = tympanic membrane

Table 3. Comparison of the accuracy of diagnosis of ear diseases in the elderly by GP's and ENT specialists.

	Diagnosis of ear diseases					
	By ENT specialists					
By GP	Ear diseases				Total	
Ear diseases	Yes	%	No	%		%
Yes	74	7.6	161	16.5	235	24.1
No	85	8.7	655	67.2	740	75.9
Total	159	16.3	816	83.7	975	100.0

Sensitivity = 46.5% (95% CI = 38.7 - 54.6)
Specificity = 80.3% (95% CI = 77.3 - 82.9)
PPV = 31.5% (95% CI = 25.7 - 37.9)
NPV = 88.5% (95% CI = 85.9 - 90.7)

CI = confidence interval, PPV = positive predictive value,
NPV = negative predictive value, GP = general practitioner.

significant difference at a p value = 0.02. If the treatment of impacted ear wax was considered, only the ENT specialists could use the suction machine to remove wax from the ear completely. The difference was significant with a p value of 0.01.

Therefore, the ability of GPs in the diagnosis and treatment of common ear diseases for the elderly in the community was not satisfactory.

Hearing screening by GPs using whisper or the watch test was recorded in 650 cases which revealed abnormal findings (could not hear) in 70 cases or 10.8 per cent.

The screening of hearing impairment using audiometers could be evaluated in 970 cases. Five hundred and eight cases (52.4%) showed an abnormal hearing level, 166 cases (17.1%) had unilateral and 342 cases (35.3%) had bilateral hearing loss. The grading of hearing loss is shown in Table 4.

If only bilateral, moderate to severe hearing loss was considered to have a significant impact on the daily activities of elderly people, 9.5 per cent of them fell into this category.

The hearing level at each frequency tested in the elderly showed no difference between males and females or between the right and left ear. But the average hearing loss in different age groups i.e. 60-69 years, 70-79 years and over 80 years was significantly different with a p value <0.05. This means that hearing loss increases with increasing age (see Fig. 2).

Correlation between average hearing level and age was shown to be significant by Pearson's correlation with a p value = 0.01.

Comparison of the hearing screening by a GP using whisper or watch test and by an ENT specialist using audiometry is shown in Table 5. It was clearly demonstrated that only 46.3 per cent of the elderly people who passed the screening test by a GP had normal hearing by audiometric evaluation.

There was no association between a history of working in a noisy environment or exposure to loud noise during working life with the hearing level found in this study.

Tympanometry was performed in 980 elderly people. Abnormal tympanograms were found in 85 cases or 9.1 per cent. The abnormal tympanograms were type B (60 cases) and type C (25 cases).

When the results of tympanometry were interpreted in combination with the results of audiometry, it was found that 432 of the elderly (46.7%) had normal hearing. Abnormal hearing was divided into sensorineural hearing loss found in 409 cases (44.2%), conductive hearing loss or Eustachian tube obstruction in 21 cases (2.3%) and conductive or mixed type hearing loss in 64 cases (6.9). The details are shown in Table 6.

Eighty seven cases of elderly people who had moderate to severe hearing loss were given an appointment to come to Siriraj Hospital for aural rehabilitation. Only 44 cases came as advised.

An ear check up and hearing screening were repeated by ENT specialists in the same group of elderly people after one year in order to study the incidence of ear disease and the progress of hearing impairment. The results of the one year follow-up study will be reported in Part II of the study.

DISCUSSION

This study showed that the prevalence of ear disease in the elderly in an urban community (16.3%) is higher than in the rural area (10%). There is no published report of the prevalence of ear disease in the elderly from other countries over the last 30 years available from a Medline search. The elderly,

Table 4. Grading of hearing loss from audiometric evaluation in 970 elderly.

	Elderly with abnormal hearing					
	Unilateral		Bilateral		Total	
	N	%	N	%	N	%
Mild (30+ - 40 dB)	139	14.3	250	25.8	389	40.1
Moderate (40+ - 70 dB)	23	2.4	83	8.6	106	11.0
Severe (70+ - 90 dB)	4	0.4	4	0.4	8	0.8
Deaf (90+ dB)	-	-	5	0.5	5	0.5
Total	166	17.1	342	35.3	508	52.4

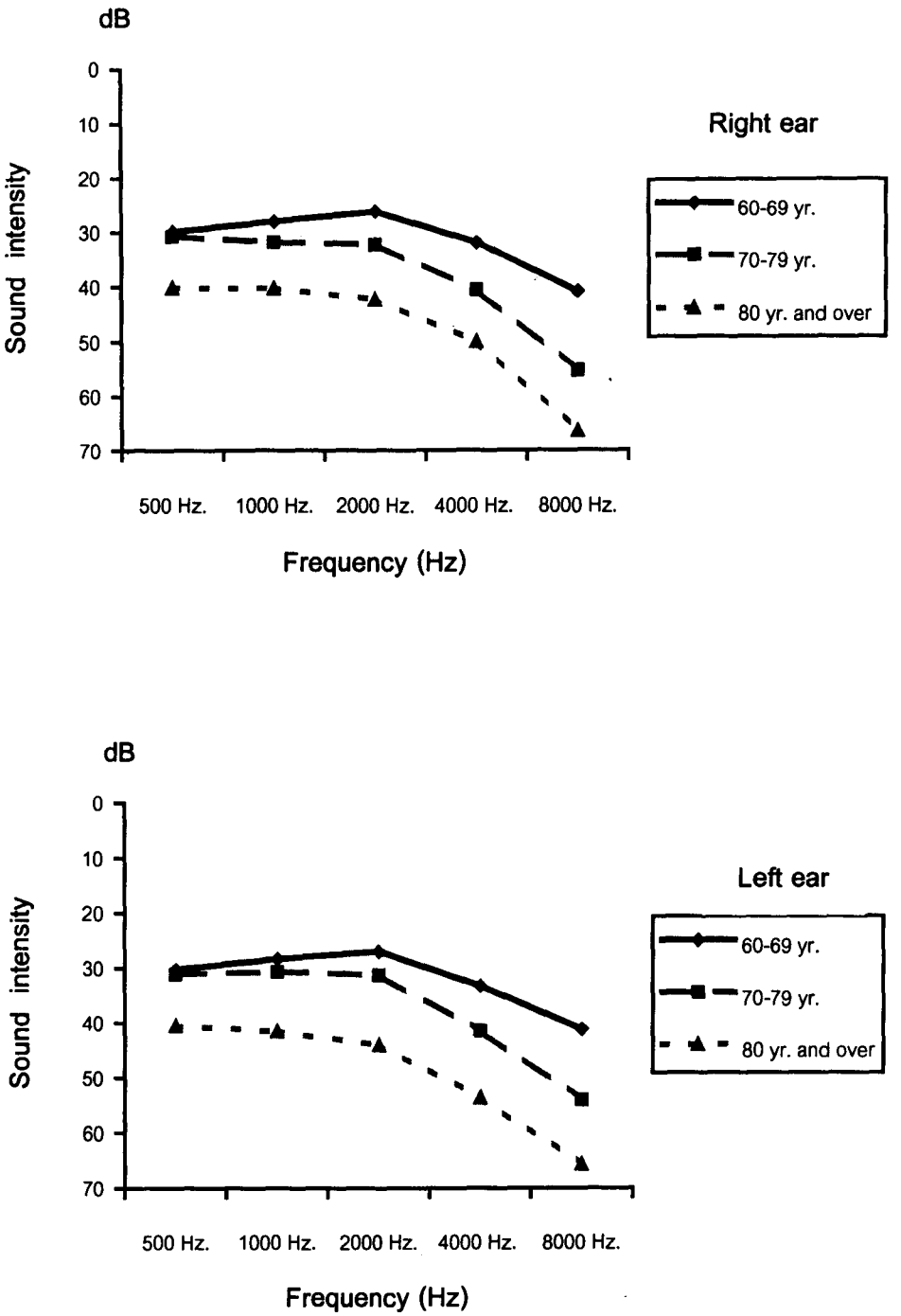

Fig. 2. Average hearing loss in different age groups in the right and left ears showing that hearing loss increases with increasing age.

although living in urban communities, find it difficult to seek medical help from an ENT specialist who usually works in a tertiary care hospital.

The total population of Thailand in the year 2000 was 62.1 million and the number of Board certified ENT specialists was approximately 600.

Table 5. Comparison of the screening of hearing by GPS using the whisper/watch test and by ENT specialists using audiometry (605 cases).

Whisper/watch test		Normal	Mild	Moderate	Severe	Deaf	Total
Can hear	N	248	219	64	4	1	536
	%	46.3	40.8	11.9	0.8	0.2	
Cannot hear	N	20	15	29	4	1	69
	%	29.0	21.7	42.0	5.8	1.5	

Table 6. Evaluation of hearing in the elderly by a combination of tympanometry and pure tone audiometry (980 cases).

Audiogram	Normal 462				Abnormal 508				No data 10			
Tympanogram	Normal	Abnormal			Normal	Abnormal			Normal	Abnormal		
		B	C	X		B	C	X		B	C	X
	432	14	7	9	409	46	18	35	3	-	-	7

B = Tympanogram type B, C = Tympanogram type C, X = Not interpretable

Table 7. The estimated number of elderly people affected by ear disease, hearing impairment and the need for hearing aids in Thailand for the next 5 and 10 years.

	Year		
	2000	2005	2010
Total population	62.1 M	64.8 M	67.0 M
Age > 60 yr	5.6 M	6.3 M	7.4 M
Prevalence of ear diseases			
%	16.3	16.3	16.3
N	912,800	1,026,900	1,206,200
Hearing impairment			
%	52.4-56.8	52.4-56.8	52.4-56.8
N	2,934,400-3,180,800	3,301,200-3,578,400	3,877,600-4,203,200
Hearing aid needed			
%	9.5-12.4	9.5-12.4	9.5-12.4
N	532,000-694,400	598,500-781,200	703,000-917,600

M = million; N = number of elderly people

Like other developing countries, most ENT specialists work in big cities. Therefore, the primary care physician or GP has to take care of "not-serious" ENT disease. However, the results of this study indicate that the ability of the GP to diagnose and treat common ear diseases of the elderly needs to be improved.

Concerning hearing, presbyacusis or presbycusis (hearing loss associated with aging), is reported to be the third most prevalent chronic-condition in community-dwelling elderly in the United States, exceeded only by arthritis and hypertension. It occurs in 35 per cent of people between the ages of 65 and 74 years and 50 per cent of persons older than 75 years[5]. Our data revealed similar results.

According to the data from the present study, the authors can estimate the number of elderly people living in the community who are affected by ear disease, hearing impairment and the need for hearing aids for the next 5 and 10 years as shown in Table 7.

Presbycusis, a disorder resulting from age-related degenerative changes, is believed to affect mainly the peripheral (cochlear) component and, to

some extent, the central auditory processing[6]. Although many studies have shown, the precise etiology of the cochlear defect remains unknown but is probably multifactorial. Degenerative changes from normal aging can result in the loss of hair cells and nerve fibers in the cochlea[7,8]. Changes in metabolic pathways[9] and change in microcirculation also affect cochlear hair cells[10]. Loud noises could add a deleterious effect to aging as well[11]. In elderly females, hearing loss might be hereditary, genetic[12] or caused by some medications e.g. salicylates[13] or decreasing bone density[14]. While in elderly males, a weak correlation has been found between presbycusis and smoking, alcohol abuse and head trauma[13]. One study suggested that degenerative changes of the auditory nerve were mainly caused by increasing environmental noise and modern life styles[15].

Defect in central auditory processing, although less common than peripheral (cochlear) defect, has an important effect on the successful use of hearing aids. Auditory processing disorders result in greater difficulty understanding speech than one would predict from their degree of peripheral hearing loss.

As both the peripheral and central components of hearing loss in the elderly are of unknown etiology, successful prevention is almost impossible.

Concomitantly, hearing loss in the elderly was shown to restrict all dimensions of quality of life i.e physical, emotional, cognitive and social function. The most important effect is that it may significantly impair communication leading to isolation, depression and possibly dementia[16]. In a study by Cacciatore, et al[17], the use of hearing aids was proved to protect the elderly who had hearing loss from cognitive impairment and disability thus improving their quality of life.

Therefore, early detection and appropriate intervention are essential and hearing screening programs are highly recommended. An ear check up should also be included in the program in order to detect and treat common ear diseases which might affect the sensitivity of hearing.

So the program should be called "Ear and Hearing Care". This program can be implemented by either GPS or ENT specialists according to the feasibility in that area.

However, the authors would like to stress that such program must reach the elderly in their own communities because it is always difficult for them to go to the hospital.

At present, the Thai government provides hearing aids to hearing impaired people free of charge. If aural rehabilitation (i.e. selection and fitting of a hearing aid) can be combined with the "Ear and Hearing Care" program, these hearing aids will be distributed effectively to the elderly who really need them.

For several years, the Otological Center, Bangkok Unit (WHO Collaborating center) of the Department of Otolaryngology, Faculty of Medicine Siriraj Hospital, has initiated and carried out a pilot project "Ear and Hearing Care" program in rural areas of many parts of Thailand and the program has proved to be feasible and valuable for rural people. In the present study, the authors have proved that such a program is also needed in the urban communities. So, if it is adopted into the health care system of the nation, it should be widely implemented in all communities and be benefitial to all elderly people in the future.

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โรคหูและการได้ยิน ในผู้สูงอายุไทย ตอนที่ 1. การศึกษาเปรียบเทียบผลการตรวจโรคหูและการได้ยิน และการรักษาโดยแพทย์ทั่วไปกับแพทย์เฉพาะทาง

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ได้ทำการสำรวจความชุกของโรคหูและการสูญเสียการได้ยินของประชากรสูงอายุที่อาศัยอยู่ในชุมชนเมือง 14 ชุมชน รอบโรงพยาบาลศิริราช โดยเปรียบเทียบความแม่นยำในการวินิจฉัย และรักษาโรคหูที่พบบ่อย และการตรวจคัดกรองการได้ยินในผู้สูงอายุ ระหว่างแพทย์ทั่วไป (GP) กับ โสต ศอ นาสิกแพทย์ (ENT specialist) ผู้สูงอายุที่มีอายุเท่ากับหรือมากกว่า 60 ปีขึ้นไป ซึ่งได้ลงทะเบียนเข้าร่วมในโครงการวิจัยเพื่อสุขภาพผู้สูงอายุไว้แล้ว จะได้รับการติดต่อนัดหมายให้มารับการตรวจหูและ

การได้ยิน โดยหน่วยแพทย์เคลื่อนที่ของคณะผู้วิจัย ในศูนย์กลางของชุมชนนั้น ๆ ผู้สูงอายุมารับการตรวจ 980 ราย, เป็นชาย 332 ราย, เป็นหญิง 648 ราย, อัตราส่วนระหว่าง ชาย : หญิง = 1 : 2 อายุระหว่าง 60–96 ปี อายุเฉลี่ย = 68.5 ปี ความชุกของโรคหู ซึ่งวินิจฉัยโดย ENT specialist = ร้อยละ 16.3 (95% CI = 14.0–18.6) โดยเป็นโรคหูชั้นนอก ร้อยละ 12.5, โรคของหูชั้นกลาง ร้อยละ 2.7 ปัญหาที่พบบ่อยที่สุด คือ ขี้หูอุดตัน (ร้อยละ 8) รองลงมาคือ หูชั้นนอกอักเสบ (ร้อยละ 4.3) เมื่อเปรียบเทียบผลการตรวจโรคหูโดย GP และ ENT specialist พบว่ามีความไว ร้อยละ 46.5 มีความจำเพาะร้อยละ 80.3 ค่า Positive predictive value ร้อยละ 31.5 ประสิทธิภาพในการรักษาโรคหู ในผู้สูงอายุ 51 รายโดย GP และในผู้สูงอายุ 63 ราย โดย ENT specialist มีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ (p = 0.02)

การตรวจคัดกรองการได้ยิน โดย GP ด้วยวิธี Whisper หรือ Watch test ซึ่งได้ทำในผู้สูงอายุ 650 ราย พบผิดปกติ (ไม่ได้ยิน) 70 ราย (ร้อยละ 10.8) การตรวจโดยใช้ pure tone audiometry ในผู้สูงอายุ 980 ราย พบว่ามีการได้ยินผิดปกติ (sensorineural hearing loss) 508 ราย (ร้อยละ 52.4) โดยร้อยละ 9.5 มีการสูญเสียการได้ยินระดับปานกลาง–มาก และเป็นทั้ง 2 ข้าง การสูญเสียการได้ยินในผู้สูงอายุ ไม่พบมีความแตกต่างกันในระหว่างเพศชายกับเพศหญิง และระหว่างหูซ้ายกับหูขวา แต่จะมีการสูญเสียเพิ่มขึ้นตามระดับอายุที่มากขึ้น การตรวจวัดการทำงานของหูชั้นกลาง (Tympanometry) ในผู้สูงอายุ 980 ราย พบว่ามีการสูญเสียการได้ยินชนิดการนำเสียงเสีย (conductive hearing loss) 85 ราย (ร้อยละ 9.1)

การศึกษานี้แสดงว่า ความชุกและอุบัติการณ์ของโรคหูและการสูญเสียการได้ยินของผู้สูงอายุในชุมชนรอบโรงพยาบาลศิริราช อยู่ในเกณฑ์สูง แม้ว่าโรคหูที่พบบ่อยจะไม่มีอันตรายร้ายแรง แต่จะทำให้เกิดความรำคาญ อาจเกิดมีโรคแทรกซ้อนและมีการสูญเสียการได้ยินเพิ่มขึ้นได้ ดังนั้นความสามารถในการตรวจวินิจฉัย และรักษาโรคหูที่พบบ่อยของแพทย์ทั่วไป จึงสมควรได้รับการปรับปรุงให้ได้มาตรฐาน การสูญเสียการได้ยินของผู้สูงอายุ จะเพิ่มมากขึ้นในการตรวจรอบที่สอง ดังนั้นจึงแนะนำให้ผู้สูงอายุ ได้รับการตรวจการได้ยินทุกปี เพื่อคัดเลือกผู้สูงอายุที่สมควรได้ใส่เครื่องช่วยฟังให้เร็วที่สุด ซึ่งจะทำให้คุณภาพชีวิตของผู้สูงอายุไทยดีขึ้น และป้องกันโรคแทรกซ้อนอื่น ๆ ที่อาจเกิดตามมาได้

คำสำคัญ : ผู้สูงอายุไทย, ชุมชนรอบโรงพยาบาลศิริราช, โรคหู, การได้ยิน, แพทย์ทั่วไป, โสต ศอ นาสิกแพทย์

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