5-1-1994

Do we need optometry in Japan?

Yoshihiro Igarashi

Pacific University
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Abstract
Japan's eyecare delivery system does not include optometry. Ophthalmologists are the only individuals who can legally provide eyecare. Though there are many ophthalmologists practicing in Japan, they must rely upon ancillary help from such medical assistants as orthoptists, ophthalmic medical assistants, and nurses in order to maintain quality and efficiency in their services as the needs of functional vision care increase. On the other hand, many spectacle wearers see refracting opticians, who are not legal eyecare providers, to have vision examinations and obtain spectacles. Kikuchi College of Optometry and The Japan Optometric Association have been providing education in order to establish optometry in Japan. There has also been another movement to establish a legalized status of opticians. In such a situation, what the public needs is convenient, high quality eyecare with accurate information about their health. Consequently, functionally oriented optometrists will be needed in Japan to satisfy public needs. It is important for those who may provide optometric care to have proper education and to establish professional ethics. They should also be mindful as to the need for cooperation among practitioners to maximize the effectiveness of the eyecare delivery system.

Degree Type
Thesis

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DO WE NEED OPTOMETRY IN JAPAN?

By

YOSHIHIRO IGARASHI

A thesis submitted to the faculty of
the College of Optometry
Pacific University
Forest Grove, Oregon
for the degree of
Doctor of Optometry
May, 1994

Adviser: Willard B. Bleything, O.D., M.S.
BIOGRAPHY

The author, who was born in Yamagata, Japan, was educated in

Rikkyo University (Saint Paul's University), Tokyo, Japan :
Bachelor of Law (1987)

Kikuchi College of Optometry, Nagoya, Japan :
Diploma with the JOA Optometrist Certification (1989)

and
Qualified to join the special program at Pacific University College of Optometry

Pacific University College of Optometry, Forest Grove, Oregon :
Doctor of Optometry (1994)

The author, Yoshihiro Igarashi, O.D., is planning to practice somewhere in the US for at least one year after graduation in order to obtain more clinical experience. Eventually he will go back to Japan, then he will provide quality vision care to the public in Japan and contribute to the establishment of optometry through educational activities to not only the opticians, but also to the public. He is interested in all aspects of optometry, especially functional/behavioral optometry and contact lens practice including orthokeratology.
ABSTRACT

Japan's eyecare delivery system does not include optometry. Ophthalmologists are the only individuals who can legally provide eyecare. Though there are many ophthalmologists practicing in Japan, they must rely upon ancillary help from such medical assistants as orthoptists, ophthalmic medical assistants, and nurses in order to maintain quality and efficiency in their services as the needs of functional vision care increase. On the other hand, many spectacle wearers see refracting opticians, who are not legal eyecare providers, to have vision examinations and obtain spectacles. Kikuchi College of Optometry and The Japan Optometric Association have been providing education in order to establish optometry in Japan. There has also been another movement to establish a legalized status of opticians. In such a situation, what the public needs is convenient, high quality eyecare with accurate information about their health. Consequently, functionally oriented optometrists will be needed in Japan to satisfy public needs. It is important for those who may provide optometric care to have proper education and to establish professional ethics. They should also be mindful as to the need for cooperation among practitioners to maximize the effectiveness of the eyecare delivery system.
ACKNOWLEDGMENTS

I would like to thank my adviser, Willard B. Bleything, O.D., M.S., for his gracious support. I would also like to thank Shinji Seki, O.D., professor, Kikuchi College of Optometry, and Kyuji Kimbara, O.D., CIBA Vision, for setting up the interviews with key persons who are involved in eyecare in Japan. I also wish to thank all of the individuals interviewed for their cooperation and their time. Due to the characteristics of this paper, which contains sensitive issues, I realized that it was best not to disclose all the names of those interviewed although I did get permission from some. And, lastly, I thank Beta Sigma Kappa for funding.
DO WE NEED OPTOMETRY IN JAPAN?

by Yoshihiro Igarashi, O.D.

INTRODUCTION

Japan’s eyecare delivery system, unlike that in the US, does not include optometry. Even though optometrists do not exist as legalized eye care specialists, high quality eye care should be provided to the public in any country.

In terms of the statutes, the only individuals who can legally provide eye care to the public in Japan are physicians. Theoretically, physicians can provide eyecare irregardless if they have specialized in ophthalmology. Ophthalmologists, physicians who have specialized in eyecare, are very different from the other physicians since they are responsible for functional examinations, including refraction, and treatment as well as medical eye care. In spite of the increased needs for functional exams/treatment in Japan, they do not seem to have the opportunity to learn about these subjects, in an organized fashion, within their educational system. In post graduate education, which is highly recommended for all physicians, they may learn about visual function, but do not seem to spend enough time on functional care in their practice. In reality, they need a great deal of help from medical assistants in order to provide their services efficiently.

On the other hand, it is very common for refracting opticians to perform eye examinations to dispense spectacles to the customers in their shops. Because a prescription is not necessarily required to obtain spectacles, large numbers of Japanese people go directly to optical shops without seeing ophthalmologists. Opticians, however, are not licensed professionals in Japan, so their skills vary. Although there are many skilled opticians in Japan, it is risky to encourage the public to see opticians to solve their visual
problems. There are several trade or technical school options for opticians. Kikuchi College of Optometry is the only school which provides a four year curriculum that has some relationship to western educational standards. The Japan Optometric Association, which has its head office in the Kikuchi College, has been providing a credentialing process over the past several years to add an element of credibility to the discipline of optometry. There has also been another movement to establish a legalized status for opticians.

The time may have come to bring together the elements of an enhanced eyecare delivery system for Japan. The purpose of this study is to analyze the current eyecare delivery system and the public needs for eyecare, and to consider the necessity of formally establishing optometry to provide quality eyecare so that these public needs can be met.

**OPHTHALMOLOGISTS**

In Japan, physicians are the only individuals who can legally provide eyecare. The number of physicians in Japan was 203,797 in 1990. Among those, ophthalmologists totaled 9,485. The population in Japan was about 122,783,000 in 1990. The ratio of population to ophthalmologists is about 1:13,000 (See Table 1), which represents a high ratio compared to other nations, considering the fact that the population density in Japan is extremely high (about 330 people/sq.km with less than 30 people/sq.km in US). Although there are not enough ophthalmologists practicing in rural areas, there are many ophthalmologists in Japan and their number is increasing significantly even though the population itself has been relatively stable.
TABLE 1: NUMBER OF OPHTHALMOLOGISTS IN JAPAN

<table>
<thead>
<tr>
<th>YEAR</th>
<th>POPULATION</th>
<th># OPHTHALMOLOGISTS</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td>108,478,000²</td>
<td>6,228³</td>
<td>17,417</td>
</tr>
<tr>
<td>1982</td>
<td>117,060,000²</td>
<td>7,446³</td>
<td>15,721</td>
</tr>
<tr>
<td>1990</td>
<td>122,783,000²</td>
<td>8,894¹</td>
<td>13,805</td>
</tr>
<tr>
<td>1992</td>
<td>123,611,000²</td>
<td>9,485¹</td>
<td>13,032</td>
</tr>
</tbody>
</table>

It is important to start this discussion with the educational program for ophthalmologists (physicians). In order to become physicians, they have to graduate from a medical school, which requires a six year curriculum after high school including pre-medical requirements that normally take two years. Then they must pass the national board examination of medicine in order to get licensed. This examination includes a small portion on ophthalmology. It is a written examination and given nationally as opposed to a state level exam. In medical school, they study all areas of medicine including ophthalmology, but the emphasis is to produce general physicians. They do not have adequate opportunity to study ophthalmology there as well as other specialties. Actually no one can practice in any specific area with confidence right after graduation even if they are allowed to perform any medical act by law. Thus post-graduate education becomes very important, and The Minister of Health and Welfare strongly recommends that all graduates should be in a residency program. Through a residency program, spending one to two years, they achieve a certain level of integrated skills and knowledge of their specialties as medical practitioners. As a matter of fact, there are many skilled ophthalmologists. But eyecare includes many aspects, and the functional aspects of vision care are not universally covered in an ophthalmology training program. Consequently, many ophthalmologists do
not seem to have sufficient skill and knowledge in functional vision care, including refraction, compared to US optometrists. Personally, I feel they are not very interested in functional vision care. The majority of conditions they treat in their clinics involve ocular disease which requires medical and/or surgical treatment. According to diagnostic statistics for ophthalmologists in 1983, the number one diagnosis was conjunctival disorder (29.4%) and the number three was cataract (28.7%) (The number two, 28.9%, was referred to as other ocular diseases except conjunctival disorder, cataract, and glaucoma.)³. Probably due to lack of confidence, and to achieve greater efficiency, many ophthalmologists rely on medical assistants to cover the area of non-medical vision care in their offices. Following is a description of those medical assistants who work with ophthalmologists; orthoptists, ophthalmic medical assistants (OMA), and nurses.

MEDICAL ASSISTANTS

This segment of this paper is to examine how medical assistants contribute to the provision of eyecare in Japan.

(1) Orthoptists

Orthoptists are licensed medical assistants in Japan. Orthoptics was legislated in 1971⁴ and currently about 1,800⁵ orthoptists are licensed in Japan. According to The Minister of Health and Welfare, the number of orthoptists required is predicted to be 2,600⁶ though I have no idea about how they projected this number. Since most of them are female, and there could be many cases where they are not working full time (not unlike other occupations in Japan), it is difficult to estimate the actual manpower. It is estimated that about 10 % of the eye clinics and hospitals in Japan have orthoptists. In terms of the distribution, about half of
all orthoptists are working in or around two large cities; Tokyo and Osaka, however there are some prefectures where there are no orthoptists.

The orthoptists are defined as licensed individuals who provide visual training and necessary examinations under the supervision of physicians for people who have binocular dysfunction. The need for vision examinations, to be done by orthoptists, has increased recently with a growing recognition of the importance of functional examinations in ophthalmic care. Orthoptists perform the following tests.

- Case history
- Visual acuity
- Refraction
- Accommodative examinations
- Visual field testing
- Tonometry
- Color vision testing
- ERG
- Heterophoria measurements
- Binocular examinations
- Scheduling and training for strabismus/amblyopia
- Statistics for various studies
- Reception for patients
- Billing and filing

As of 1992, there were ten schools for orthoptists. The numbers of schools has increased rapidly (See Table 2).
TABLE 2: NUMBER OF SCHOOLS OF ORTHOPTICS

<table>
<thead>
<tr>
<th>YEAR</th>
<th># SCHOOLS</th>
<th># STUDENTS IN 1ST YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1980</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>1985</td>
<td>3</td>
<td>120</td>
</tr>
<tr>
<td>1989</td>
<td>4</td>
<td>150</td>
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<tr>
<td>1990</td>
<td>4</td>
<td>150</td>
</tr>
<tr>
<td>1991</td>
<td>8</td>
<td>265</td>
</tr>
<tr>
<td>1992</td>
<td>10</td>
<td>325</td>
</tr>
</tbody>
</table>

Total enrollment of entering students of all schools in 1992 was 325. These schools, except one, are all trade/technical schools which provide a three year curriculum for high school graduates and a one year curriculum for those who have completed the first two years of a university curriculum. One non-trade school was established as the orthoptics course in the department of medical technique in Kawasaki College of Medicine and Welfare in 1993 (total enrollment of their first year students was planned to be 25). The oldest school, Kokuritsu Shoni Byoin Fuzoku Shinokunren Gakuin (The School of Orthoptics in the National Pediatric Hospital), provides basic subjects and specialized subjects. The basic subjects include anatomy, biology, psychology, mathematics/statistics, foreign language, public health, etc. The specialized subjects include ocular anatomy, visual perception, ocular disease, ocular pharmacology, physiological optics, basic orthoptics, advanced orthoptics, etc. Several classes have accompanying laboratories in which students take turns as "examiners" and "patients" in order to
learn manipulation of instruments and examination procedures. It is very difficult to obtain adequate clinical skills and experience in the school, however, because of the very short curriculum.

Although there is little doubt that orthoptists are the most educated medical assistants who are involved in eyecare, it seems that their educational base is still inadequate in order for them to be viewed as a strong manpower source, due to limited numbers and inadequate education. It is difficult to improve their educational level and skills, because they are not a fully recognized profession by the public and they are not independent.

(2) OMA (Ophthalmic Medical Assistants)

OMA is another alternative. Nihon Ganka Ikai (The Japan Ophthalmic Association) has offered training courses and annual examinations for OMAs since 1979. The candidates for OMA are individuals who work in eye clinics where the physician is a member of The Japan Ophthalmic Association. The candidates must attend a total of thirty hour lecture units and have "home study" done before applying for the examination. The Japan Ophthalmic Association grants certification to those who pass the examination, but it does not mean that they are licensed. Approximately one thousand OMAs have been produced every year, and a total of 7,264 have passed the certifying exams through 1984 (See Table 3). A constant increase of OMAs is predicted so that more than 16,000 OMAs will be certified through 1993 though there are no actual numbers available. But as I mentioned, an OMA is not a licensed profession, so that once they leave the clinics they are not considered to be an OMA any more. Thus it is very difficult to estimate the number of OMAs actually on duty.
TABLE 3: NUMBER OF OMA CERTIFIED

<table>
<thead>
<tr>
<th>YEAR</th>
<th># OMA CERTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>1,453</td>
</tr>
<tr>
<td>1980</td>
<td>1,276</td>
</tr>
<tr>
<td>1981</td>
<td>1,263</td>
</tr>
<tr>
<td>1982</td>
<td>1,092</td>
</tr>
<tr>
<td>1983</td>
<td>1,125</td>
</tr>
<tr>
<td>1984</td>
<td>1,055</td>
</tr>
</tbody>
</table>

(3) Nurses

Nurses can contribute to the provision of eyecare after they get licensed and experienced in ophthalmic clinics. In the process of their education, they have little opportunity to study eyecare specifically. However, they are often utilized as technicians due to the lack of orthoptists. The number of nurses working with ophthalmologists is unknown, but the shortage of nurses, in general, has been a chronic problem in Japan.

So far I have introduced the eyecare manpower typically found in the physicians' office. Now it can be stated that ophthalmologists need help in order to cover the functional aspects of eyecare. However, current day medical assistants are not adequate source to improve the quality of eyecare; there is a shortage of assistants and their education base is limited.

Ophthalmologists are the only individuals who are legally responsible for eyecare in Japan. Many of them should make a greater effort to learn how to manage their patients, functionally, in addition to the help they receive from assistants, if they recognize the
importance of functional eyecare and want to provide it with high quality. Especially those ophthalmologists in private practice, who don't have access to surgical facilities, need to expand their scope to optometric care since they provide service to the public at the primary level.

Optometrists in the US are somewhat similar to Japanese ophthalmologists in private practice in terms of their role and position on the eyecare system. Both should be primary care practitioners. I suppose US optometrists are providing better care at this level because many of them are functionally oriented and they exert greater effort as to the early detection of ocular/systemic disease and control than Japanese ophthalmologists in private practice. In Japan, it has been over an extended period of time that the philosophy of primary care has been introduced, but it does not seem to be very well accomplished in eyecare in Japan.

One more aspect I would like to mention is contact lenses. Similar to the US, contact lenses are very popular in Japan. In 1987, contact lens wearers in Japan totaled about 4,140,000. In Japan, contact lenses must be dispensed by physicians or technicians with supervision of physicians. There are some situations where contact lenses are dispensed by fitters with the supervision of physicians who have not specialized in ophthalmology and do not really know anything about contact lenses. The reason that such a gray area exists is that there is no formally educated contact lens fitter and the physicians' rights become excessively expanded.

OPTICIANS

Opticians are not legally designated eyecare providers. But, in fact, about 70% of spectacle wearers go directly to opticians and have a refractive examination to obtain spectacles without seeing ophthalmologists (In Japan, a prescription is not necessarily
required to obtain spectacles). In this perspective, refracting opticians are actually contributing to the provision of eyecare in Japan. Though they offer refractive examinations to the public as a part of their services, generally for free, there is no educational or licensing qualification to become an optician. Opticianry is not a licensed profession in Japan.

There are eight trade/technical schools of opticianry as an option of an educational institute, and about 4,500 opticians have graduated though their programs of study. Curricula have not been made uniform, however, varying from one school to another. Generally speaking, the technical level of refractive examinations by opticians depends on the amount of study by the opticians themselves and the education provided by their employer or somebody in charge of education. Thus very skilled opticians actually exist even though they did not go to a school of opticianry. According to The Commercial Statistics, there were 21,993 optical stores in 1988 (The stores which are spectacle-specialties are estimated at about 9,000.). The people who were working in those stores totaled about 65,100. This number includes those who cannot perform refractions, so it is difficult to estimate the number of refracting opticians as a manpower source for eyecare in Japan.

The optician business in Japan is very competitive. As mentioned, there are about 22,000 optical stores including the ones carrying something else, such as watches and jewelry. There are also many discount shops. The annual sales of spectacles was approximately 608 billion yen or about 5.8 billion dollars ($1 ~ 105 yen) in 1990. And surprisingly, the top 30 companies, which have 26.2% of the total number of optical stores, have 38.7% of the total sales. The majority of the shops are owned by relatively small companies. Operating optical shops is not a highly profitable business for these small companies, considering the fact that everything in Japan is more expensive than in many other countries.
(1) Kikuchi College of Optometry and Japan Optometric Association

One group of opticians has decided that they should expand the scope of their profession through education and legislation. Emerging from among the several trade/technical schools for opticians, The Kikuchi College of Optometry (KCO), which opened in Nagoya in 1978, is the only school which provides a four year curriculum that has some relationship to western standards as a bonafide program in optometry; while other schools just have two year curriculums. KCO differs, substantially from other training programs in Japan in that they have followed the educational standards put forward by the International Optometric and Optical League (IOOL) and maintain a faculty made up of Ph.D.'s for basic sciences and a M.D. and US educated O.D.'s for the clinical sciences. As of 1992, the number of full time students who had graduated and received diplomas in optometry totaled 511\textsuperscript{12}. KCO also has had part-time students, mainly the people who have already worked in optical stores. It also has a special program which allows qualified graduates to do advanced study at Pacific University College of Optometry, Forest Grove, Oregon. They can obtain the degree of doctor of optometry in a 3 year program in the college after completing two years of pre-optometric courses as well as English training at Pacific University. The Japan Optometric Association was established in 1979, is housed at KCO and offers The JOA Board of Examinations for the students and the graduates of KCO, which are examinations that meet the standards of IOOL. Those who pass the examination are certified as JOA optometrists. As of February, 1993, a total of 239\textsuperscript{13} JOA optometrists have been certified. The Japan Optometric Association has also offered such educational activities as hosting conferences for JOA optometrists and the students, and publishing a JOA Journal.

There is no doubt that the KCO and The Japan Optometric Association, which has been providing a credentialing process over the past several years, have
added an element of credibility to the discipline of optometry in Japan. But their activities seem to be at a "plateau". The truth is that most of the public does not know what optometry is as well as the existence of KCO and The Japan Optometric Association, although many opticians and ophthalmologists may know of their activities. I feel that there are three basic reasons. The first is anti-optometry activities by some ophthalmologists. They seem to be afraid that optometrists will take over eyecare, so they monitor the activities of KCO and The Japan Optometric Association and keep pressuring them. Through my study, I heard the story that some US ophthalmologists have warned Japanese ophthalmologists not to allow optometry to exist in Japan. The second reason is poor distribution of KCO graduates. KCO is owned by one of the large optical companies, Kikuchi Megane, CO., Ltd. Kikuchi Megane had 128 chain stores in 1990, mainly in Nagoya in the Chubu area, which is the mid-area between two large cities, Tokyo and Osaka. KCO graduates don't wish to leave Nagoya or Chubu area, or don't wish to be hired by anybody but Kikuchi Megane; about 42% of KCO graduates are currently working in Kikuchi Megane. This trend has become significant in recent years; 33 out of total of 48 graduates in 1992 are now working as dispensing or refracting opticians in Kikuchi Megane. Generally speaking, non-university school graduates have disadvantages relative to university/college graduates when they get hired, but KCO graduates are treated very well by Kikuchi Megane. They also get paid more than the salary from many other companies, especially in the early years of employment. The third reason is the security factor relative to the students. They realize how hard it is to establish optometry in Japan, so that they do not feel secure about their future. Therefore they may develop the feeling of "giving up" even in school. Another reason is a quality problem of the students. It is needless to say that the main stream of Japan's educational system has university/college on the top, and most of the students who have been well educated, up to high school,
do not go to trade/technical schools. It is not my intention to offend those people who do not go to universities/colleges, but it could be possible for KCO to become a school for those who are not university-bound. And it must be a common problem for other technical schools, too. KCO must be very attractive for them to attend because it doesn’t have a tremendously hard entrance examination, like universities/colleges, and there is the opportunity to be hired by Kikuchi Megane after graduation. I worry that many make not exert much effort to study optometry and provide quality vision care, all of which could help lead to the establishment of optometry in Japan in the future. One more point to mention about the student quality problem is that many have fathers who are owners of optical companies. They do not need to worry about a job opportunity, since nepotism is common in Japan. So some of them just wish to graduate from KCO, which is famous within the optical business, without studying very hard. Such factors can be causes for KCO and The Japan Optometric Association's activities to be at a plateau.

(2) Opticians Act

Besides The Japan Optometric Association, there are other organized groups of opticians. One of the largest groups, called The Japanese Opticians Association, is currently educating many in order to establish a social status of opticians which is required in order to support healthy development of the optician business. They have proposed an "Opticians Act" since they established in 1980. In 1985 the Opticians Act (the second draft) was lobbied as legislation to some congressmen of the Liberal-Democratic Party, which had a single party government at that time, by the leaders of The All Japan Optometric and Optical Association (AJOOA) along with The Japan Ophthalmic Association14 (See next page).
OPTICIANS ACT (THE SECOND DRAFT)

1. DEFINITION
An optician is defined as a person who dispenses lenses for correction of vision and their holding devices.

2. LICENSING
Licensing and registration of opticians shall be authorized by The Minister of Health and Welfare, who may entrust a juridical person of public interest with this matter.

3. EXAMINATION
(1) Examinations for licensing shall be conducted by The Minister of Health and Welfare, who may entrust the above juridical person with this matter.

(2) Those who are eligible for taking the examination shall be graduates from a training institution designated by The Minister of Health and Welfare.

(3) Those who have already been engaged in the opticians business shall be licensed after obtaining stipulated lecture units at authorized educational seminars and passing examinations.

4. OCCUPATIONAL DUTIES
(1) Those who are not licensed opticians shall not be permitted to use the name of "optician".

(2) Opticians can dispense glasses in accordance with prescriptions issued by medical doctors.

(3) Opticians, if it is deemed necessary for dispensing glasses and when requested by users, may perform auxiliary vision testing as stipulated in the ordinance of The minister of Health and Welfare.

(4) Opticians shall not be permitted to perform such conduct as fitting lenses for vision correction directly onto the eyes, use of drugs, dispensing glasses for those users with ocular disorders or under age, or any other conduct which might endanger their health unless performed by medical doctors.

(5) It is mandatory that opticians keep records of dispensing for each user.

*Ordinance of Ministry of Health and Welfare: In case those who are not medical doctors, examining eyes using vision testing instruments, such deed is considered to violate provision 17 of Physicians Act (1954).
The content of the first proposed bill had to be downgraded due to strong pressure from ophthalmologists because it clearly stated that opticians can perform such vision examinations as pupillary distance measurement, refractive examination and corrective acuity measurement. The bill has not been presented to the Congress, partly due to the lack of unified efforts on the part of opticians, and also to the political instability after the "Recruit Scandal". In 1992, The Japanese Opticians Association and AJOOA offered to cooperate with each other in order to make the legislation possible. Because unification of the opticians is very important for legislation, this is viewed as a big step for them.

According to the "auxiliary vision testing", as stipulated in the ordinance of The Minister of Health and Welfare, it could be understood that opticians cannot perform any vision examinations. But the definition of auxiliary vision testing is unclear, and what the ordinance states is not realistic, relative to the custom that many people have, of seeking vision examinations in optical stores to obtain spectacles. Thus, it should be understood that what opticians currently provide as their services is permitted even though it is not clearly stated. In Japan some laws are very vague and they are often applied like this in order to fit the reality which also changes as time goes by. Personally I think this bill should become clearer so that it fits the reality and the opticians' right is protected more appropriately. But it is also true that public health should be well protected. Thus, opticians should be much more educated, and it should be required for ophthalmologists and opticians to cooperate with each other. Opticians should not forget their social responsibility as vision care providers, otherwise their social status will not be established.

WHAT IS THE PUBLIC NEED?
It is extremely important to know the publics' need for eyecare. There are no statistics available, but it may be analyzed by viewing some facts.

As mentioned earlier, about 70% of the spectacle wearers visit opticians without having prescriptions. Probably the biggest reason for this is the convenience. Do they trust refracting opticians, then? Probably yes, but only partially. If they don't trust opticians, they will not go to see opticians again without having a prescription. In general, it is not very convenient to obtain optical prescriptions in clinics or hospitals. Patient waiting times are generally long (Patients are usually seen without an appointment, on a first-come-first-served basis, and waiting one hour or more is common.) and the encounter itself is very short. Some patients may have trouble seeing the value in visiting ophthalmologists to get prescriptions. In these clinics, they have refractive examinations by medical assistants with minimal training in many cases.

Even though the public expects a refraction as a free service in the optical stores, many of them do not wish to spend much time on the examination. They would rather spend their time in frame selection. Many of them do not appreciate the refracting opticians' skills, either. Therefore some opticians simply try to respond to their customers' needs. Subsequently, they lose their professionalism and many “discounters” emerge, who do not have good professional skills. Unfortunately, advanced technology, such as auto-refractometers, can hasten this process, sometimes. This is how an opticians business can develop in an unhealthy fashion.

What I conclude, through the above behaviors of the public, is lack of interest and knowledge for their eyes. Their interests and knowledge may still be lacking, for their health in general, though I believe they are showing improvement. The social systems, such as longer working time and shorter time off relative to other countries, may facilitate lack of awareness for their health. On the other hand, a competitive society may produce much stress including visual stress resulting in the need for high quality care. Japanese people are the ones who really need advanced vision care.
Related to lack of interest for their health, there are many Japanese people who don't even know what kind of medications they are currently taking. They know what the medications are for, but many of them don't know how these medications work, what side effects they have, and so on. I think a strong dependence on physicians leads to this behavior. Traditionally, Japanese people have great respect for authority. In Japan, especially, physicians are considered to be reverend figures. Malpractice suits are rare in Japan. Probably many Japanese people don't have the sense that disease is the one they can heal. I agree that it is very important to establish a trust between a doctor and a patient. However, the public should be "medically smart" and have a right to know their conditions, treatment, and medications because the public should be aware of their health. It is very unfortunate that prescription labels are frequently removed before patients receive medicines. I have heard from my friend that a physician got angry when she asked about the prescription. I am not saying that most of the physicians are like this, but many seem to be very charismatic and authoritative.

Awareness of myopia seems to be high. It is well known that the myopic population in Japan is high. Most of them refer to eyes that have reduced visual acuity as "bad eyes". And many wish to see better without having correction by spectacles and/or contact lenses. Nowadays there are many establishments called "visual acuity improvement centers" all over the country. In such establishments, the trainers, who do not have a license to provide vision care, offer services using lenses and instruments and charge their customers for these services. They do not have supervision by physicians, and they often deal with children. For advertising purposes, they also use the names of US optometrists and their recommendations. Depending on the establishment, their philosophies seem to vary, but many are based on the "Bates Method", which is controversial as to its efficacy. Personally, I strongly believe that these establishments should be regulated to protect the public. In addition, the popularity of radial keratotomy is increasing. I am not against the use of RK, but it is not appropriate that only the positive
side is emphasized without mentioning the contraindications, risks after the procedure, other alternatives, and so on. It seems to me that the public has trouble getting proper information due to society receiving questionable and incomplete information.

And although there is no data available, one can speculate that there must be many individuals who are suffering from uncorrected refractive problems, functional problems, and undiagnosed disease.

So, what is the public need? I would like to conclude that the public needs convenient, effective eyecare, and proper information/education that leads to an appropriate awareness of their health. Because the above needs are not currently being met, a great degree of confusion exists within the public.

CONCLUSION: DO WE NEED OPTOMETRY IN JAPAN?

It must be understood that the eyecare delivery system in Japan is not functioning adequately which is due, especially, to the lack of an appropriate education system for eyecare providers as well as poor health education program for the public.

So, do we need optometry to improve the system? The answer is "yes", however, we don't need medically oriented optometrists in Japan because there are many ophthalmologists who can provide medical care to the public. Their skills are considered to be proficient enough to respond to the public need for medical treatment; no other provider can replace them. They are also expected to improve with increasing numbers of practitioners in the future, with the unskilled ones being eliminated. What we need in the system are vision care specialists who are functionally oriented and who know ocular and systemic disease very well in order to provide early detection and control of ocular disease disorders. These specialists will function as primary care practitioners. If we have this type of professional, most of the problems that I have proposed will be resolved. Again,
the key word is "education". These specialists, the functionally oriented optometrists, should be highly educated and trained at least at the university level, not at the trade/technical school level. Good educators of optometry will be needed and they will be in great demand in the schools. Optometrists should also become good health educators for the public as well.

There are probably three candidates for this type of visual care provider; ophthalmologists, orthoptists, and opticians. Ophthalmologists could get the position by changing themselves to a functional orientation. With the increasing numbers of ophthalmologists, it is possible for some of them to specialize in optometry. They would be able to achieve this with an expansion of their training. They may need to establish a department of optometry in medical schools, otherwise they cannot obtain optometric education in an organized fashion. The potential problem that may exist with this approach, however, is the philosophy of eyecare by medicine. Generally, medical doctors have a different philosophy from optometric doctors. Because that is the way they were educated in their schools, it may be difficult for ophthalmologists to change their philosophy. But those ophthalmologists who are flexible and motivated would be able to provide optometric care in the future though it would still not be very convenient for the public.

Orthoptists may provide optometric care in the future, too, when you consider the services they are currently providing. In order for them to be optometric care providers, they should be independent from ophthalmologists otherwise they will not be a strong and viable force in the system. If they obtain a higher degree of education and more proficient skills, they would be able to make professional judgments more comfortably. If they could achieve this level, they would not be medical assistants anymore. They would not need to have supervision by physicians. But it is doubtful that orthoptists will be independent from ophthalmologists; historically, they have been under the control of ophthalmologists. Also due to social customs, the fact that most of the orthoptists are female can prevent them from
being independent vision care specialists in Japan. But realistically, it may be confusing for the public to have one more eyecare practitioner that is different from the ophthalmologist. As to the future, orthoptists will most likely stay in the position of medical assistants to support ophthalmologists. And it is also true that more orthoptists are needed to support for ophthalmologists in order to improve the quality and efficiency of eyecare in the current system.

I think that refracting opticians are realistically the best candidates to become optometrists, like those in the US. However, there are too many unskilled opticians in business. They need more time to obtain adequate education and learn the philosophy of optometry. They also need to be unified; more than 10 groups representing the opticians business is too many. Only those opticians who are adequately educated should expand their scope of practice as optometrists; all opticians do not need to be qualified as optometrists. KCO and The Japan Optometric Association should be more active in order to achieve their "dream". An "Opticians Act" can be the large step. They should never forget proper ethics as vision care professionals in order to become optometrists.

What all eye care providers need to do is to increase the awareness of eye health and its proper care to the public by giving them accurate information; the public will make the decision who they should support. No matter who provides optometric care in Japan, all who are involved in eyecare should cooperate with each other in order to maximize the functioning of the eyecare delivery system.
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