

**SCHOOL SCREENING PROGRAM – DETERMINING SENSITIVITY AND  
SPECIFICITY OF SCHOOL TEACHERS IN DETECTING REFRACTIVE  
ERRORS IN SCHOOL CHILDREN**



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## **BONAFIDE CERTIFICATE**

This is to certify that this dissertation titled “**School screening program – determining sensitivity and specificity of school teachers in detecting refractive errors in school children**” done towards fulfillment of the requirements of the Tamil Nadu Dr MGR Medical University, Chennai for MS Branch III Ophthalmology examination to be conducted in April 2014, is the bonafide original work of Dr. Madhiraju Nandanandan, Post Graduate student in Ophthalmology, Christian Medical College, Vellore.

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Introduction The World Health Organization (WHO) recognizes uncorrected refractive error for distant vision to be the main cause for low vision and the second leading cause of blindness after cataract (1). In 2011, WHO estimated 285 million people to be visually impaired in the world out of which 39 million were blind in all age groups. Uncorrected refractive error accounted for 43% of visual impairment in all age groups globally. Nineteen million are visually impaired globally between 0-14 years of age. In India, the estimated number of people with visual impairment was 62.6 million in 2010 out of which 8.07 million population are blind in all age groups (2). A systematic review of...

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## Introduction

The World Health Organization (WHO) recognizes uncorrected refractive error for distant vision to be the main cause for low vision and the second leading cause of blindness after cataract (1). In 2011, WHO estimated 285 million people to be visually impaired in the world out of which 39 million were blind in all age groups. Uncorrected refractive error accounted for 43% of visual impairment in all age groups globally. Nineteen million are visually impaired globally between 0-14 years of age. In India, the estimated number of people with visual impairment was 62.6 million in 2010 out of which 8.07 million population are blind in all age groups (2).

A systematic review of unpublished and published surveys was conducted in 2004 by Resnikoff et al to know the prevalence of uncorrected refractive error globally. Vision less than 6/18 in the better eye which could be improved to 6/18 or better was taken as uncorrected refractive error. There are 158 million visually impaired due to uncorrected refractive error out of which 45.55 million are between 16-49 years of age (excluding uncorrected presbyopia). The cause of visual impairment due to uncorrected refractive error in 5-15 years was 12.8 million.(1)

Uncorrected refractive error in India is present in 39.3 million according to systemic review done in 2004 out of which 1.61 million are between 5-15 years of age.

Refractive error is an easily correctable condition which if left uncorrected leads to limitation of daily functioning. In a study done by Smith et al, visual impairment (VI) resulting from uncorrected refractive error (URE) affected up to 4% of the population in 2007, with an



estimated cost to the global economy of 268.8 billion after purchasing power parity adjustment.(3)

We can detect refractive error by objective method or subjective methods. Retinoscopy is widely used by ophthalmologists but needs expertise for usage though it is more flexible.

Autorefractometer is easier technique to master but difficult to perform in children who are uncooperative. (4)

In clinical setting visual acuity is most commonly tested parameter which helps us to know the amount of visual impairment.

Method of testing visual acuity differs according to age, literacy and mental function of an individual. In infants preferential looking test is used. In children visual acuity is tested with Allen picture cards, Landolt rings, the Tumbling E test, the HOTV test and the Sheridan-Gardner test (5) . In adults and school children visual acuity is tested with Snellen's chart or LOGMAR chart.

Visual acuity is Snellen's chart is given in terms of Snellen's notation, Snellen notation consists of a fraction in which numerator depicts testing distance (usually 20 ft or 6 m) and denominator depicts distance at which a normal person can see and would be able to read the letter. If Snellen's notation is 6/60 then 6 is testing distance at which he/she is seeing and 60 meters is the distance from which a normal person can see.(6)

Decrease in visual acuity is considered as visual impairment. There are many classifications to grade visual impairment on the basis of visual acuity which helps us to know if child has refractive error.

According to World Health Organization (International Classification of Diseases-10) visual acuity less than 6/18 is considered as visual impairment and visual acuity less than 3/60 is considered as blindness.

According to National program for control of blindness ( NPCB ) Visual acuity  $< 6/18$  to  $6/60$  is considered as low vision and  $< 6/60$  is considered as blind.(7)

Children with uncorrected refractive error in school age may affect their performance in class and adversely affect social interaction. Children with uncorrected refractive error may develop behavioral abnormalities. They may have headache, frequent watering and tired eyes.(8)

In India lack of trained personnel to screen for refractive errors in school children makes the situation even worse (9) (10). To overcome this problem we can use school teachers as initial screeners.

School teachers can be trained to check visual acuity and they can refer children with visual impairment for further evaluation to ophthalmologist. School teachers are in regular contact with children in their school and they can also follow up if children who were prescribed glasses are using glasses regularly.(11)

Many studies were conducted to know the sensitivity and specificity of using trained teachers to detect visual impairment in school children. Xichang Pediatric Refractive Error Study (report 6) done by Abhisek Sharma & Liping et al reported sensitivity and specificity of 93.5% and 91.2% in Chinese children where myopia is more prevalent (11). Limburg et al reported sensitivity and specificity of 64% and 93% respectively in children between 6<sup>th</sup> to 8<sup>th</sup> standard in Maharashtra. (12)

Gupta et al conducted a similar study in Shimla and reported a sensitivity and specificity of 81.5% and 92.5% respectively. Teachers in their study used ETDRS chart for visual acuity testing and 6/9 was taken as visual impairment compared to our study teachers used E Card of 6/12 Snellen optotype. Children screened were between age group of 5 to 15 years.(13)

A study conducted by Sudhan et al in Madhya Pradesh reported false positive and false negative as 57.97% and 6.08%. In their study Ophthalmic assistant screened only 1% of children who were said normal by teachers and screening was not done on same day

In developing countries like India screening is done once in primary school (6-9 years) to detect early onset refractive error and once in secondary school (12-14 years) to detect myopia (14). In school eye screening program 5<sup>th</sup> to 10<sup>th</sup> class students are screened as they will be in position to understand the importance of screening and carry the message to their home and thus community.(15)

**Sarva Sikshya Abhyan (SSA)** is a program by Government of India for universal achievement of elementary education by providing free and compulsory education in age groups of 6-14 as their fundamental right since 2000-2001 (16). In SSA trained teachers are used as initial screeners to detect uncorrected refractive error. Teachers not only detect visual impairment they also do functional assessment and give sensory training. They give family and individual counseling for blind and visually challenged. Teachers also help develop communication skills in visually impaired and train children in activities of daily living. Teachers of special schools help children in reading Braille and spatial orientation to move around individually (16).

School eye screening program was integrated with NPCB after successful implementation in five pilot districts in 1994. Activities are planned by district health societies keeping in mind the

schedule of exams, holidays and human resources (15). In school eye screening program schools are identified and information on number of teachers and students in each school is collected. Teachers are trained and students suspected to have refractive error by teachers are referred to ophthalmic assistant or ophthalmologist who confirms whether child has refractive error and prescribes glasses. Prescribed glasses are given free of cost to students of poor socio economic background.(15)

The present school eye screening (SES) under the National Program for Control of Blindness program trains one teacher per school. Trained teacher used E card of 6/9 Snellen optotype for screening children which can give high false positive results and lead to unnecessary referrals to optometrist/ophthalmologist (14). Optometrist will not screen all the children but will confirm only children suspected by trained teacher thus missing children who actually has refractive error and labeled as normal by teachers.

In our study we are using teacher card which contains 6/12 size E Snellen single optotype and all children screened by teachers will be screened by optometrist on the same day.

With this background we decided to train school teachers with help of training module and to know the effectiveness of using trained teachers in detecting uncorrected refractive errors in school children and to know the knowledge and practice of teachers towards refractive errors in children.

## Aim and Objectives

### **Aim:**

Determine the sensitivity and specificity of trained school teachers in detecting refractive errors in school children.

### **Objectives:**

- To develop and test a module to train school teachers to assess vision in school child.
- To determine sensitivity, specificity and positive predictive value of trained school teachers in picking up uncorrected refractive errors in school children with optometrist as gold standard.
- To evaluate the difference in sensitivity, specificity and positive predictive value for detection of uncorrected refractive error among children by teachers based on age of teachers, years of teaching experience, educational qualification, type of school they are working, subject they are teaching, spectacle usage by teachers for distance vision, previous training and previous screening done by teacher.
- To evaluate the existing knowledge and practice of school teachers with regards to refractive errors among school students and compare before and after teachers training.
- To evaluate the difference in knowledge and practice of teachers based on age of teacher, years of teaching experience, type of school they are working, education qualification, subject taught by teacher, spectacle usage by teacher for distance vision and screened for visual impairment before.

## Review of literature

### Prevalence of refractive errors in community globally

Refractive error study in children (**RESC**) is a series of population based studies to overcome lack of comparability and representative data. This multi centric study was done with help of WHO to know prevalence of visual impairment and to enumerate causes of visual impairment in children between 5 to 15 years of age in different ethnic group and environmental settings by using same protocol. Cluster Sampling was done with 200-300 children in each sample. All children between age groups of 5-15 years were enumerated and presenting, uncorrected and best corrected visual acuity along with refraction under cycloplegia were done.(17)

Surveys using RESC protocol were done in rural Jhapa District in **eastern Nepal** ; semirural Shunyi District, near **Beijing, China** (18); La Florida, an urban area of Santiago, **Chile** (19) ; rural Mahabubnagar District near Hyderabad, in **Southern India** (20); an urban area of **New Delhi, India** (21); a semirural/urban area of **Durban, South Africa** (22) and an urban area of **Guangzhou, China**. The results of these studies based on RESC protocol are given below.

**Table 1 – Visual Acuity 0.5\* or worse in at least one eye in children between 5-15 years**

Country	N	Presenting VA%	Uncorrected VA %	Best corrected VA%	% due to refractive error
China(Shunyi)	5884	10.9	12.8	1.8	87.8
China (Ghangzhou)	5053	10.3	22.3	0.6	95.6
Chile	5303	14.7	15.8	7.4 **	62.1
Nepal	5067	2.8	2.9	1.4	55.1
South Africa	5599	1.2	1.4	0.3	66.4
Urban India	6447	7.4	9.0	2.1	80.9
Rural India***	4074	4.9	5.0	2.5	53

\*- 0.5 decimal (6/12 Snellen)

\*\* - Difficulties in measuring visual acuity accurately, particularly in children

\*\*\*- aged 7-15 years

The **Heilongjiang eye study**, a cross sectional study done in rural northern China by Li et al to know the prevalence of refractive error and associated factors in children between 5-18 years of age. The prevalence of uncorrected visual acuity of 20/40 or less is 6.3%, presenting visual acuity was 3% and best corrected visual acuity was 1.2%. Prevalence of myopia, hypermetropia and astigmatism were 5% , 1.6% and 2% respectively.(23)

A population based cross sectional study done by Goh et al to assess prevalence of refractive error in school aged children between 1 to 15 years of age using RESC protocol in suburban region of Kuala Lumpur, Malaysia showed prevalence of uncorrected, presenting and best corrected visual impairment as 17.1 %, 10.1 % and 1.4% respectively. Refractive error accounted for 87 % of visual impairment.(24)

A population based cross sectional study The Strabismus, Amblyopia and Refractive error in Singapore children (**STARS**) was done in south west Singapore to know the prevalence of refractive error types in Singapore Chinese children aged 6-72 months. 3009 eyes were examined and overall prevalence of myopia, hypermetropia and astigmatism were 11% , 1.4% and 8.6% respectively. There was increase in prevalence of myopia with increase in age of children. (25)

Shaikh et al conducted a population based cross sectional survey in Karachi, Pakistan in children between age group 5-15 years to assess prevalence and pattern of eye diseases. They reported prevalence of refractive error of 2% and visual impairment was more in girls as compared to boys. Low vision was found in 2.2% and uncorrected refractive error was most common cause of low vision. (26)

### **Prevalence of refractive error in community in India**

A Population based cross sectional study was done by Dandona et al in children between age group of 7 to 15 years with an aim to know the prevalence of refractive error and visual impairment related to it in rural area in Mahabubnagar district of Andhra Pradesh. Sampling was done by village based clusters and a total of 4414 children were identified. Uncorrected visual acuity less than 20/40 or worse in better eye was 2.7 %, presenting visual acuity less than 20/40



or worse in better eye was 2.6%, and best corrected visual acuity less than 20/40 or worse in better eye was 0.78 %. (20)

The Kariapatti pediatric eye evaluation project, a population based cross sectional study done by Nirmalan et al in south India to know the prevalence of ocular morbidity. In this study they found out that 6.2 of 10000 children are blind and 42.9% of blindness is avoidable. Refractive error accounted for 0.55 % of blindness. (27)

Andhra Pradesh eye disease study (**APEDS**), a population based cross sectional study conducted in three rural and one urban area in Andhra Pradesh by Dandona et al to know prevalence and demographic association of refractive errors in south India. The prevalence of myopia in APEDS was 3.19% and hyperopia of 62.62%. Myopia was more prevalent in urban population and hyperopia was more in children less than 10 years.(28)

Murthy et al conducted population based cross sectional survey in urban population in school age children between 5-15 year old children in urban population of New Delhi, The uncorrected, presenting and best corrected visual acuity less than 20/40 was 6.4%, 4.9% and 0.81% respectively. 81.7% of visual impairment accounted for refractive error with myopia in 7.4% and hyperopia in 7.7%.(21)

Uzma N et al conducted a population based cross sectional survey to compare prevalence of prevalence of refractive errors and eye diseases in urban and rural school children in and around Hyderabad. In urban children the uncorrected visual impairment was 9.8%, presenting visual impairment was 7.1% and best corrected visual impairment was 1.1%. Uncorrected corrected. Presenting and best corrected visual impairment in rural children were 6.6%, 3.3 % and 2.5% respectively. The prevalence of refractive error was greater in urban group compared to rural

children. Main contributors for increased myopia in urban group were increased literacy rate, duration of study hours, and older age of the child. (29)

Basu M et al conducted a population-based cross-sectional study among the school girls in four urban schools of Surat city to assess the magnitude of ocular morbidity and factors influencing ocular morbidity and the impact of this on performance of schoolgirls. 15.22 % (457) had defective vision out of 3002 children screened. 91.47% children had myopia, 4.06% had hypermetropia and 0.04% children had astigmatism. Among 433 spectacle users, 29.73% girls did not have adequate correction. The commonest age of onset of refractive error was 10-14 years. Myopia and astigmatism were more common in older children and hyperopia in younger children. (30)

Trivedi et al conducted a population based cross sectional study to assess the prevalence of refractive error and related visual impairment in school -aged children between age group of 7-15 years in the rural population of the Prantij village of Sabarkantha district and compared their result with similar study done at urban area in Ahmadabad. Uncorrected visual impairment less than 20/40 in either eye was 2.6% in rural population and 4.9% in urban population. Prevalence of myopia in rural and urban children is 4.1% and 7.4% respectively. Prevalence of hypermetropia is 0.78% in rural children and 7.7% in urban children. 0.18% of rural children and 1.6% of urban children has visual acuity less than 20/200 in one eye. Spectacle usage was seen in 5.3% in rural population and 26.8% in urban population. (31)

### **Prevalence of refractive error in school children globally**

In school based cross sectional study done by Mehari and Yimer et al in rural population area of Ethiopia. Out of 4,238 children screened, 405 (9.5 %) children had visual impairment with vision less than 6/12 and of these 267 (6.3%) children had refractive error. Myopia (6%) was most common refractive error and hyperopia was least common refractive error (0.33%).(32)

A cross sectional study conducted by Yared et al in 1582 school children from 8 elementary schools of Gondar town in north west Ethiopia to know the prevalence of refractive errors. 174 children had refractive errors out of which 55 (31.6%) were diagnosed as myopia in right and left eye, 46 (26.4%) and 39 (22.4%) had hyperopia in their right and left eye respectively. Low myopia was most common refractive error found in both right and left eye. Myopia was more prevalent in children more than 10 years. Refractive error was more prevalent girls in age group of 10-14 years compared to boys of same age group.(33)

In Xichang pediatric refractive error study (**X-PRESS**) report 1, cross sectional study done to evaluate prevalence of refractive error among secondary school children, the uncorrected, presenting and best corrected visual impairment less than 6/12 was 41.2%, 19.3% and 0.5% respectively. Visual impairment due to refractive error was 98.7 % of which myopia (-0.5 D) was most common refractive error (62.3%).(34)

A cross sectional school based study done by Lindquist et al in secondary school children in Fiji to know uncorrected refractive error and its association with gender and ethnicity. A total of 8201 children from central division of Fiji were screened and 180 children had visual impairment (2.2 %) of which 92.2% was due to refractive error.(35)

In cross sectional study done by Fotouhi et al in 5721 children from 39 primary, middle and secondary school children in urban and rural areas of Dezful, Iran. 224 children had uncorrected visual acuity less than 20/40. The prevalence of myopia and hyperopia in cycloplegic refraction was 3.4% and 16.6% respectively. (36)

A cross sectional survey done by El-Bayoumy et al in 5839 children from 12 government schools between 7-15 years of age in Cairo. The prevalence of refractive error (VA <6/12) was 22.1% and low vision (VA <6/18) was 12.5%. (37)

In school based cross sectional study done in Cape coast, Ghana by using RESC protocol in 1103 school children by Ovenseri-Ogbomo and Omuemu et al, the prevalence of refractive error was 25.6%. 4.6% of children had hypermetropia, 6.9 % had myopia and 14.1 % children had astigmatism. (38)

Screening for refractive error was done by Opubiri et al among primary school children in Bayelsa state, Nigeria to know prevalence and use this data for school eye screening. 1,242 school children between 5-15 years of age were screened out of which 56 children had visual acuity less than or equal to 6/9. Twenty six children (1%) had visual acuity less than or equal to 6/12. In 22 children (88%) out of 26 children vision improved to 6/6 with pinhole. The prevalence of refractive error was 2.2%. Refractive error was seen in both eyes in 22 children and in one eye in 5 children. (39)

Northern Ireland Childhood Errors of Refraction (**NICER**) study, a community based cross sectional study done by L O'Donoghue et al in children between 6-7 years and 12-13 years to determine prevalence of refractive error and visual impairment. In children between 6-7 years of age 2.8% children had myopia, 26% children had hyperopia and presenting visual impairment in

better eye was 1.5%. Among children between 12-13 years myopia was present in 17.7%, Hyperopia was present in 14.7%, and Prevalence of visual impairment in better was 3.6%. 25% children were not having glasses with them. (40)

A school based cross sectional study done by Carter MJ et al in Paraguay to know the visual acuity and refractive error in three different ethnic groups. The prevalence of myopia in the Mennonite group (1.2%) and in the mixed race group was 1.4% ( $SE \leq -0.5$  D). The prevalence of hyperopia ( $SE \geq 2$  D) in Mennonite, indigenous and mixed race children was 40.6%, 34.2%, and 46.3% respectively. The prevalence of astigmatism in Mennonite, indigenous and mixed race children were 3.2%, 9.5%, and 12.7% respectively. Females were more hyperopic than males, and hyperopia was more prevalent in children between 9-11 years. (41)

Sapkota YD et al conducted a cross sectional survey to assess visual impairment in school children of Kathmandu from upper middle socio economic status. 4,501 children in class 5<sup>th</sup> to 9<sup>th</sup> from 43 schools were examined out of which the prevalence of uncorrected, presenting, and best-corrected visual impairment ( $\leq 20/40$ ) in the better eye was 18.6%, 9.1%, and 0.86%, respectively. Major cause of uncorrected visual impairment was refractive error (93.3%). 10.9% children with age of 10 years and 27.3% children with age of 15 years had myopia. Older children, parent education, female gender and Mongol ethnicity had positive correlation with myopia. (42)

Alam et al conducted a cross sectional study to know the prevalence of refractive errors in school children of Karachi, Pakistan. One thousand children were screened from 20 schools out of which 940 children were examined. The prevalence of refractive error was 8.9%. Female

children had more preponderance. Only 10.9% of children had visited an Ophthalmologist for ophthalmic examination. There was no association of refractive error with class of the child. (43)

### **Prevalence of refractive error in school children in India**

Desai et al conducted a school health appraisal program, a cross sectional screening program in children between age group of 5-16 years in 11 schools in Jodhpur. Five thousand one hundred thirty five school children were screened and prevalence of defective vision using 6/9 cut off on Snellen's chart was reported to be 20.8%. (44)

Ghosh et al conducted an Institutional based cross sectional study to know pattern of visual impairment in children from low income families in Kolkata among 2570 children between age group of 6-14 years. They have reported visual acuity less than of 14.7% of which 11.9% children had myopia and 2.5% children had hypermetropia. Visual impairment ( $VA < 6/12$ ) was seen in 4.8 % of the eyes.(45)

Padhye, et al conducted school based vision screening program to know the prevalence of uncorrected refractive error and other eye problems among urban and rural school children between age groups of 6-14 years in Pune and Sholapur districts. The prevalence of uncorrected refractive error was 5.46 in urban children and 2.65 in rural school children. Myopia and hypermetropia was present in 3.2% and 1.1% respectively among urban school children and 1.5% and 0.4% among rural children. (46)

A study conducted by Gupta et al to know the prevalence of ocular morbidity in school children between 6-16 years in Shimla showed prevalence of 31.6% of which refractive accounted for about 22%. The prevalence of refractive error was 22.6% in private schools and 21.5% in government schools. (47)

Kalivayal et al conducted a study to know the prevalence of visual impairment due to refractive errors and other ocular diseases in lower middle class children of Hyderabad. Among 3,669 children 115 (3.1%) had visual acuity less than 6/18 of which 94.8% had refractive error. Prevalence of myopia, hypermetropia and astigmatism was 8.6%, 22.6% and 10.3% respectively. Prevalence of myopia was significantly prevalent in children more than 10 years. (48)

An cross sectional study was carried out by R.N. Bhattacharya et al in the Naxalbari village in the Darjeeling district of West Bengal to know the prevalence of abnormal visual acuity in children of 3 to 12 years of age. Among 331 children 12 children (3.65%) had visual acuity less than 6/9 in either eye. 75% children with visual abnormal vision were more than 7-8 years of age. (49)

A School based cross sectional was carried out by Jha KN et al to obtain a base line data on refractive errors in children below 15 years from 2 schools at Leh, Jammu and Kashmir. Of 843 children examined children who had visual acuity of 20/40 or worse, at least in one of the eyes were 48(5.69%). Range of Refractive errors below +/- 1.0 D is seen in 33 (3.91%), between +/- 1.25 to +/- 3.0 D in 6(0.71%) and 9 (1.06%) children had refractive errors above +/-3.0D. Myopia with or without astigmatism was most common seen in 4.1% of study population. (50)

Rustagi et al conducted a cross sectional study in five schools of the North-west district of Delhi to know the prevalence of visual impairment among school children in 7<sup>th</sup> to 9<sup>th</sup> standard in middle and secondary Government school. Visual acuity less than 20/60 was considered as low vision and 20/200 was considered as blindness. Visual acuity less than 20/30 was considered as

abnormal vision. 59 (11.7%) boys and 64 (11.2%) girls had visual acuity of less than 20/30. Low vision in better was seen in 2.9% of children and blindness in 0.9% children. (51)

Pavithra et al conducted a cross sectional study of 1378 government school children of 7-15 years age group in both rural and urban areas of Bangalore to know the prevalence of refractive error. Defective vision was seen in 10.2% of children and prevalence of refractive error was reported as 7.03%. The prevalence of Myopia, Hypermetropia and Astigmatism in children was 4.4%, 1.03%, 1.6% respectively. The prevalence of refractive error was more in girls(9%) than in boys (5.3%) and in urban schools (8.5%) than in rural schools (5.4%).(52)

Seema et al conducted a cross sectional study to know the prevalence of Refractive Errors in 1265 school children (6-15 years) 4 randomly chosen Government Senior Secondary Schools in rural block of Haryana. 172 children (13.6 %) had defective vision ( $\leq 6/9$ ). Myopia in only one eye is seen in 22(1.74%) students and in both eyes in 131(10.36%) students. Hyperopia in one eye only is seen in 2(0.16%) students and in 17(1.34%) students it is seen in both eyes. The prevalence of refractive error was more in girls (23.7%) as compared to boys (12.2%). (53)

A cross sectional study done by Sonam et al in school children aged 12-17 years studying in 7th to 12th class to determine the prevalence of refractive errors in school children (12-17 years) of Ahmedabad city by age, sex, class and type of refractive error. 1,647 school children 417 students (25.32%) were found to be having refractive errors. Myopia, hypermetropia, astigmatism was found in 265 (63.5%), 47(11.2%) and 85 (20.4%) cases respectively. Refractive errors in students of 10th to 12th standard were significantly higher (d value = 3.96,  $p < 0.05$ ) than the students of 7th to 9th standard. (54).



Prema et al conducted a cross sectional study among 7<sup>th</sup> class children from four selected schools in kancheepuram district in Tamilnadu to know the prevalence of refractive errors. 192 children (30.57%) out of 628 children screened had refractive error. Only 7% of children with refractive error were wearing glasses. Most of parents of children were unaware of their child having refractive error.(55)

A cross sectional study conducted by Gupta et al in rural Hatharas in Uttarpradesh in children of age 3-12 years to know the prevalence of refractive error and pattern of ocular morbidity. 6.81% children had refractive error and myopia and hyperopia accounted for 26.67% of refractive errors. Myopic astigmatism was present in 33.3% and compound astigmatism in 13.33%. (56)

### **Barriers for utilization of services for refractive error correction**

In Xichang Pediatric Refractive Error Study (X-PRES) REPORT-5, Liping Li et al did a study in rural school children in china to know the causes of not using spectacles. 597 children who were advised spectacles in previous school screening program were interviewed about their spectacle use. Only 32.5% of children who were advised to use or change glasses purchased spectacles. In 339 children not using spectacles at baseline, 235 children (69.3% ) did not purchase spectacles for which lack of felt need (48.7%) was main reason , Economic constrain and parents unwillingness in 17.6 % of children and other causes like eyes would become weak with glasses (12.8%), Inconvenience (7.1%), symptoms of headache(4.4%) and cosmetic (0.9%). Among 258 children who were glasses at baseline but failed to provide adequate correction, 152 children (58.9%) did not change their glasses to present prescription. 77.9% of children were happy with present glasses and 11.4% children felt glasses were too expensive.(57)

A study done by Castanon Holguin et al to know the factors associated with spectacle wear non compliance in Mexican school children showed that 86.1% children were not wearing spectacles when spectacles were provided free of cost to all the children. Spectacle wear was better in rural children as compared to urban children (40.9% & 9.1%). Younger children (6-12 yrs) were more compliant with spectacle use than older children (13-19 years) (16.2% Vs 3.8%). Main reason for non use of glasses was cosmetic appeal (16.6%) and forgetting glasses at home (16.6%). 14% children were using glasses occasionally and lack of felt need in 8.7% of children. Other causes were headache due to glasses and parents disapprove for glasses.(58)

In a study done by Messer et al in school children who got free pair of glasses in Collaborative Longitudinal Evaluation of Ethnicity and Refractive Error (CLEERE) study done in South Arizona State to evaluate the compliance of spectacles usage and factors affecting it, 165 children out of 247 children who were given spectacle were not using glasses. Most common reason was lost (44.9%) or broken (35.3%) spectacles. Myopia, astigmatism and poor uncorrected visual acuity had positive correlation with spectacle usage among children.(59)

Rapid assessment of refractive error study (**RARE**) conducted by Marmamula et al in Mahabubnagar district , AP aimed to know the barriers of utilization of refractive services between age group of 15-49 years. They reported that most common reason for not utilizing services for uncorrected refractive error as economic reasons (30.9%), lack of felt need (23 %) and lack of access (16.5%). Barriers like economic barriers and lack of access were easy to change and barriers like lack felt need and personal fears or superstitions on spectacle usage are difficult to change.(60)

Gogate et al conducted a study in rural secondary school children to know the compliance of spectacle used in Pune district, India and reported that education of father, magnitude of refractive error and female sex has positive correlation with spectacle compliance. Main causes for not using glasses were Getting teased about spectacles (19.8%), broken glasses (17.4 %), Forgot spectacles at home (16.3%), Not a regular user (15.2%), doesn't like using spectacles and lost spectacles.(61)

Rustagi et al conducted a questionnaire based personal interview in school children from rural area of Delhi to assess the compliance of students for refraction testing, procurement and use of spectacles. Compliance with referral for refraction was very low as only 51 (41.5%) out of 123 students could be tested for refraction. In 72 students who had not undergone refraction, 13.9% students were not present on the day of refraction, 30.6% were not willing to undergo refraction, 25.0% forgot to get the consent form signed, 23.6% parent denial was the reason and 6.9% lost consent forms. Out of 48 students, 34 (70.8%) procured spectacles from family resources but its regular use was found among only 10 (29.4%) students. Major causes for not using glasses was momentary constrains, cosmetic reasons, anticipation of teasing and in girl children difficulty in getting married was one of the main reason for not using glasses. (51)

From above studies done globally and in India main factors and barriers for non utilization of spectacles are easy to change and this can be done by regular screening of children for refractive errors and motivating children for use of spectacles.

We can overcome economic barrier and lack of access to trained personnel by conducting school screening program and outreach programs for detecting uncorrected refractive errors in school children.

In developing countries where resources are limited it is not possible for medical personal to examine all the children in the community .Only 20% of 25,000 Primary Health Centre's have refractive services in India (15) . In India schools are the place where we can divert our attention to screen the children. Initial screening can be done in schools and children with problem can be examined in ophthalmology department. In appropriate setting school screen helps us to reach children of different socioeconomic group in a short time.

Objective refraction – Can be done with autorefractometer or with help of retinoscope. Use of autorefractometer may also be difficult in children who are not very cooperative. Streak retinoscope is most commonly used but it needs expertise and hence can only be used by professional for detection of refractive error.(4)

### **Ideal cutoff of visual acuity for refractive error screening**

Tong et al conducted a study to determine the optimal visual acuity cutoff to predict the presence of refractive errors in Singapore schoolchildren using ETDRS screening chart and came to a conclusion that LogMAR 0.28 (6/12 on Snellen's) is ideal cut off that can be used in school screening for refractive error. The sensitivity, specificity and positive predictive value for prediction of refractive error was 72%, 97% and 96% respectively. The cutoff of 0.28 correlated well with myopia but was not well correlated with hypermetropia and myopia as children read 6/6 even with refractive error using accommodation.(62)

Ore L et al conducted a study on northern Israeli children comparing 6/6 and 6/12 in illiterate E chart used by public health nurses taking ophthalmologist examination for detection of refractive error as gold standard. Using visual acuity less than 6/12 as cutoff for visual impairment instead

of 6/6 cut off for visual impairment the false positive rate dropped from 22 % to 15 % but false negative rate increased from 28 % to 41 %.(63)

Leone and etal tested reliability of refractive error screening in adolescents in Sydney population and found that sensitivity of myopia is 97.8% with cut off of 6/9.5 on Snellen's chart , hyperopia and astigmatism has sensitivity of 69.2 % and 77.4% respectively with 6/6 cut off on Snellen's chart. (64)

Myopia is most common among school children. Using 6/12 for size will have high specificity for myopia, hypermetropia and astigmatism but it is not very sensitive in picking up hypermetropia and astigmatism.

### **Screening for refractive errors in community (Trained personnel / VHA).**

Bailey et al conducted school screening with help of optometry students in elementary school children in North America. Visual acuity less than 6/12 in either eye was taken as visual impairment and their sensitivity was 69 % . (65)

Jewell et al conducted school screening program in children between age group of 13-15 years in UK using public health nurses. They used presenting Snellen's visual acuity less than 6/12 as visual impairment and reported sensitivity of screening to be 77%. (66)

Khandekar R et al conducted a cross sectional study to in schools located in 7 regions of Oman to know validity of vision screening. Screening was done with help of Snellen's E chart in children of 4 grades by trained school nurses. Sensitivity, specificity and positive predictive value was reported as 68.34%, 99.23 and 85.42% respectively. The sensitivity was higher in female children and older children.(67)

In developing countries like India the scenario is different compared to developed countries, the number of trained personnel required to screen all the children for refractive error is a difficult task. According to Indian optometric federation there are 7,500 BSc optometrists and 36,000 who were trained for 2 years in Diploma optometry. (9)

According to Resnikoff et al in India there are less than 25 ophthalmologists per million populations (68). From above statistics it is clearly evident that there is deficiency of professional personnel in India. Hence it would be good if school teachers can perform initial screening for visual impairment in schools.

### **Screening for refractive error in school by teachers**

By considering school children as target population will cover most of the children in the community as the school enrollment rate has increased recently. According to ministry of human resources and development the school enrolment ratio of 112.0 in India, 104.3 in Tamilnadu for 1<sup>st</sup> to 8<sup>th</sup> Std and 82.3 in India, 65.0 in Tamilnadu for 9<sup>th</sup> and 10<sup>th</sup> Std in the year 2010-11. (69)

Xichang Pediatric Refractive Error Study ( XPRESS) (report 6) done by Abhisek Sharma & Liping et al to assess the effectiveness of using teachers as initial screeners in Xichang city in China. In this school based cross sectional survey 32 teachers and team of Ophthalmologists and Optometrists screened 1892 children in junior middle school years (13-17 years). Sensitivity, specificity and of trained teachers was 93.5% and 91.2% respectively. (11)

Pizzarello et al conducted school screening in children between 9-15 years of age by parent volunteers using Snellen's visual acuity chart and 6/12 as cut off for visual impairment. The effectiveness of the program was evaluated and reported sensitivity of 93%. (70)

Eye in eye project by De Fendi LI et al to assess the quality of screening done by teachers in 5-7 years of school in city of Marilia , Brazil reported sensitivity , specificity, positive predictive value, negative predictive value to find out decreased visual acuity in school children when done by teachers was 82%, 40%, 27% and 89% respectively. (71)

Moghaddam et al conducted a cluster based cross sectional study in 1163 school children in Iran. Uncorrected visual acuity worse than 20/35 on E chart was taken visual impairment and reported sensitivity and specificity of 37.5% and 92 % respectively for trained teachers when compared to optometrist as gold standard. (72)

Limburg et al conducted a study by using trained teacher form each school under school screening program. They screened all children between 6<sup>th</sup> to 8<sup>th</sup> classes in ten blocks in four districts of Maharashtra. 292 teachers were trained under this program. The percentage of children with presenting visual acuity less than 6/9 was 4.6%. Sensitivity, specificity and positive predictive value of trained teachers in India when both teachers and optometrist used E card for screening was 71%, 94 % and 45% respectively. Sensitivity, specificity and positive predictive value when teachers used teachers card for screening and optometrist uses Snellen's chart for screening was 64%,935 and 345 respectively. When optometrist conducted screening with teacher's card to compare it with Snellen's chart sensitivity, specificity and positive predictive value was 86%, 98% and 77% respectively.(12)

Sudhan et al did a study to know the effectiveness of using trained teachers. 530 teachers from 530 schools in two districts of Madhya Pradesh, India were trained. These teachers screened 68.833 children in 5<sup>th</sup> to 12<sup>th</sup> class using E card of 20/30 size. 4.91% children reported to have visual impairment was screened by ophthalmic assistant. 1% of children who were reported to be

normal by teachers were also screened by ophthalmic assistant. This study concluded that number of false positives and false negatives by trained teachers when compared with ophthalmic assistant are 57.97 % and 6.08 % respectively.(73)

Srinivas Reddy et al conducted a study in Andhra Pradesh to see the utility of trained teachers as initial screeners. Two thousand seven hundred sixty eight children between 10-15 years from 17 government schools were screened by 51 teachers using visual acuity worse than 6/12 on E chart as cutoff for visual impairment. All children who were noted to be have visual impairment and 10% of normal children were screened by ophthalmic personnel. This study reported sensitivity of 77.7% and specificity of 83.9 % for trained teachers in detecting uncorrected visual acuity in school children. Higher academic qualification and female teachers was associated with correctness of diagnosis.(74)

Gupta et al conducted a study to assess the effectiveness of the trained teachers in a vision screening program for children of age 5-15 years attending school in Shimla hills. Thirty trained teachers from 15 schools screened 2000 children and results were compared with trained Optometrist. Sensitivity and specificity for teachers in picking up uncorrected refractive errors was 81.5% and 92.56% respectively.(75)

C. S. Dhull et al conducted a screening program to know the effectiveness of using trained teachers as initial screeners for detection of refractive error in Rothak city. Nine teachers from three schools screened 678 children between age group of 5 to 10 years. False positive rate was 2.2% and false negative was 7.8% when compared to Ophthalmic assistant.(76)

Tabansi et al conducted a study to evaluate teacher's performance in vision screening of primary school children in Port Harcourt. 130 teachers from 13 schools were trained for 6 hours in skill



acquisition workshop on vision disorders and vision screening using Snellen's chart. These 130 trained teachers screened 1300 children all of these children were re-screened using Snellen's chart by research team. The sensitivity and specificity of vision acuity test of trained teachers compared to research team was 53.3% and 94.6% respectively.(77)

In study conducted by Ira Krumholtz et al in two schools of New York to know the effect of training school teachers in detecting visual impairment in school children. 377 Children in two schools were screened in the year 1998-1999 by school teachers out of which 111 were referred as visual impairment. 39% of these referrals were true positives. Two years later in 2000-2001 teachers were trained about common eye problems and how to check vision and eye movements and these trained teachers asked to screen same two schools. There were 126 referrals of 409 children screened. True positive in 2000-2001 were 68%. This study concluded that there was significant increase in teacher's ability to detect vision problems from after training.(78)

### **Assessment of Knowledge, attitude and practice of school teachers on vision disorders.**

Tabansi et al conducted a study by self administered questionnaire to know teachers knowledge on common vision disorders before and after training. 130 randomly selected teachers from different primary schools of Port Harcourt were given six hours training on common vision disorders and refractive error. A self administered questionnaire was given before and after training. The knowledge of causes of visual disorders increased from 10% pre training to 31.3% post training. The overall improvement in knowledge is significantly more in private school teachers (80%) compared to public school teachers (31.4%). There was no difference in performance based on education qualification. (79)

A cross sectional questionnaire based study conducted by Armond et al to know the knowledge of 1<sup>st</sup> degree elementary school teachers regarding refractive errors in 545 teachers from 120 elementary schools of Brazil. Majority (67.4%) of these teachers were not given any health orientation in last 3 years. Teachers knew what is myopia and its symptoms (70.8%) more than hyperopia (42.9%) and astigmatism (40.9%). This study concluded that knowledge among primary school teachers regarding refractive errors is distorted or insufficient and can be improved by regular training.(80)

Khabir Ahmad et al conducted a survey to know the perceptions of eye health among primary school teachers in Abbottabad district in Pakistan. Sixteen teachers from 4 schools underwent interview based questionnaire. 12 teachers (75%) reported that good vision indicates healthy eyes and 5 teachers (31.3%) said that absence of any disease indicates healthy eyes. Most teachers (75%) said that difficulty in seeing blackboard as symptom of refractive error and 43.8% teachers said reading with books close to face is main symptoms of visual impairment. 37.5% of teachers said difficulty in reading in dim light and color blindness indicated visual impairment. Teachers reported reading in dim light or excessive bright light (56.3%), direct exposure to sunlight (43.8%), prolonged television use are major causes that damage children eyes (43.8%).(81)

Ambika et al conducted a study to know awareness of refractive errors among primary school teachers in Mysore. Sixty primary school teachers who has not screened for refractive error before and most of them having teaching experience less than 10 years were given a pre structured questionnaire regarding refractive errors. This study concluded that 80% of primary school teachers had adequate knowledge of refractive errors.(82)

Thummalapalli et al conducted a study with pre-intervention and post-intervention questionnaires to know the effect of education sessions on Indian schoolteacher regarding awareness of childhood eye health issues. One forty government-employed school teachers in primary schools of Hyderabad were given training regarding anatomy of eye and common vision disorders in school children. There was significant improvement in knowledge of school teachers from pre invention (39.3%) to Post intervention (63.7%,  $p < 0.01$ ) regarding knowledge on vision disorders. (83)

# Materials and Methods

## **Study Design**

This was a cross sectional study conducted in six government and government aided schools in Vellore town and Department of Ophthalmology, Christian Medical College, Vellore.

## **Participants in the study**

### Inclusion Criteria

- All teachers who were willing to participate in the study teaching the classes of 5 – 9
- All children on rolls in classes 5<sup>th</sup> – 9<sup>th</sup> in schools screened

### Exclusion Criteria

- Children who were absent on the day of screening

## **Method**

Six schools (4 government and 2 government aided schools) which were within radius of 1 kilometer from Department of ophthalmology, CMC Vellore, were identified for this training program after obtaining permission from the District Education Office and Principals from respective schools for screening students and training teachers (Appendix 2). Consent from teachers who were willing to participate in study was taken at their respective schools with help of school principal.(Appendix 3)

On a predetermined date after discussion with the concerned school principal, three hours training program was held at the Department of Ophthalmology for one group of 22 teachers from 4 schools on

Saturday and other group of 12 teachers from two schools were trained at School on Wednesday as teachers from these schools couldn't come to ophthalmology department for training. Initially teachers were given proforma to collect data regarding age, gender, educational qualification, teaching qualification, type of school they are working, number of years of teaching experience, usage of glasses for refractive error, whether they have undergone teaching training regarding refractive errors before and whether they have screened for visual impairment before (Appendix 4). A questionnaire was administered to assess their knowledge and practice towards refractive errors in children.(Appendix 5)

The training was done by a qualified Optometrist and Ophthalmologist, using power point presentation on basic structure of eye, how to check visual acuity and briefing about E card. During training session each slide in power point presentation was explained in Tamil and English and doubts of teachers were clarified. Practical sessions how to check vision with E card was taken for teachers after demonstration.

After the training session, the same questionnaire which was given before training was given to teachers and their responses was noted to compare pre training and post training difference in their knowledge and practice towards refractive errors.

The teachers were provided a kit which contains a vision card, a six meter rope and educational material, screening sheet to record visual acuity of children, occlude and laminated paper containing letter E of size more than 6/60 Snellen's optotype. Vision card has single E –optotype – 6/12 size of the Snellen's chart which is used for screening. Laminated sheet containing letter E of size more than 6/60 Snellen optotype for giving directions to children before screening was given in the kit so that child with low vision will understand what child has to show in the screening. The rope was used to measure the correct distance for vision testing – 6 meters. Teacher training module was given as handouts in the respective languages for further reference for teachers.

Trained teachers conducted screening for visual impairment among the students of their schools according to the set protocol ten days after the training in four schools and 14 days after training in two schools as students had exams in those two schools. All children in the class were explained by teacher as what they need to identify during testing visual acuity with help of laminated sheet containing letter E. All children then signed the assent form giving their consent to being screened by the teachers and then by the Optometrist on the same day after being explained to them by the investigator regarding the process that was to be followed (Appendix 6). Children were explained in a language they were fluent with – Tamil and English.

Children were explained as to what was being checked and what their answers would be using the enlarged E chart provided in the kit – letter and direction of the open end of the E. The vision screening was conducted by the trained teachers in a well lit room/corridor more than 6m long. Other children were kept away from the examining area to prevent prompting. The testing distance of 6 meters was measured using the rope provided. The student was shown the Vision testing card from a distance of 6m and had to identify which direction of the open end of the indicated E optotype was pointing. Each eye was checked separately. The other eye was occluded using the occlude provided in the kit.

By convention visual acuity of right eye was checked first followed by left eye. E card was turned arbitrarily so that the child did not memorise the sequence. Three correct responses out of 4 were considered as CAN SEE and anything less than 3 correct responses were recorded as CANNOT SEE. Children who were using spectacles already were checked with their spectacles and were marked as using glasses in the specified column in screening sheet. Teachers noted their results in screening sheet given to them.(Appendix 7)

The Optometrist also screened the same group of children which teachers had screened on the same day with help of Snellen's E optotype chart. Results of screening by the optometrist were noted in the screening sheet as Snellen's notation. For children using spectacles visual acuity was tested with glasses and this was marked in the column provided in the screening sheet (Appendix 8). Data was entered in Excel spread sheet (Appendix 10). The results of screening by teachers and Optometrist were analyzed and effectiveness of using trained teachers for detecting uncorrected refractive errors in school children will be determined with Optometrist as gold standard.

We analyzed factors effecting sensitivity, specificity, positive predictive value of teachers based on age, educational qualification, type of school, subject taught, Teaching experience and any effect of previous training undergone or screening done by the teacher in their school. We also compared if there is any difference in their knowledge and attitude before and after training.

### **Institutional review board**

The study protocol was approved by the institutional review board which constituted members outside the institution as per the ICMR guidelines required for any study conducted in the institution. IRB Min No: 8471 [OTHER] dated 25.09.2013. (Appendix 1)

### **Outcome measured**

#### **Primary Outcome**

- To evaluate sensitivity, specificity and positive predictive value of trained teachers in picking up uncorrected refractive errors in school children. This is done by dividing students as Visual impairment (VI) / No visual impairment (No VI) based on 6/12 cut off in Snellen's chart used by optometrist or E card of optotype 6/12 (CAN SEE OR

CANNOT SEE) measured by teachers and comparing results of teachers with Optometrist as gold standard.

### Secondary outcomes

- Teachers were divided into different groups according to age, gender, educational qualification, teaching qualification, years of teaching experience, subject taught by teacher, glasses usage, whether undergone teachers training regarding refractive errors before, whether screened for refractive errors before and influence of these factors on sensitivity, specificity, positive predicative value.
- Knowledge and practice of teachers towards refractive errors in children and difference in their knowledge and practice after training.

### Bias

To prevent introducing bias into the results the following measures were taken –

- Screening of school children by teachers and optometrist was done on the same day and results of teachers were blinded to optometrist.
- The disease condition was not likely to change between screenings done by either group as it was done on the same day.
- Teachers used Teacher E Card and optometrist used Snellen's E chart to screen children to prevent bias from child memorising the chart or not giving response.



**Sample size:**

**Diagnostic test – Estimating sensitivity of a new test**

Sensitivity of new test (%) = 78 (72)

Precision (%) = 10

Desired confidence interval (%) – 95

Number of disease subjects needed = 66

Prevalence of Uncorrected refractive error in urban school children = 6.4% (15)

Minimum number of children to be screened = 1,032

Number of teachers trained = 30

## Results and Analysis

A total of 6 schools were included in our study to screen 1164 children. Children and teachers included in the study belonged to either a government school (4 schools) or a government aided school (2 schools). Children from classes 5 to 9 were included for the screening process.

Teacher training program recruited 34 teachers who taught in the above 6 schools after obtaining respective permissions from heads of their institutions. Of the 34 teachers, 2 had to be excluded due to – one teacher not completing the post test following the training and one teacher being absent during the day of screening at their school.

### **Demographic characteristics of the teachers**

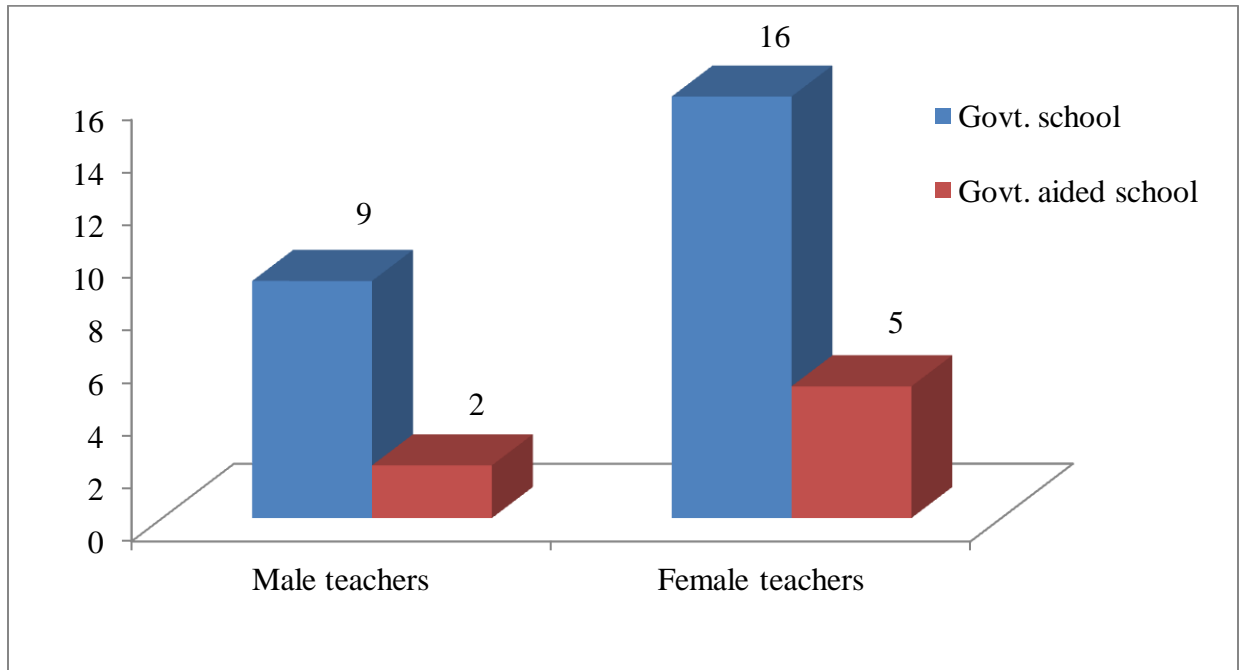
The mean age of teachers in government schools is 40.28 +/- 6.74 years which was slightly higher than teachers from government aided schools, 38.6 +/-6.45 years. There was no significant difference in distribution in between these groups (P=0.55)

The number of male teachers is 11 of which 9 teachers were from government school and 2 teachers were from government aided schools. There were 21 female teachers out of which 16 teachers were from government schools and 5 teachers were from government aided schools.

**Table 1 - Teacher demographic characteristics**

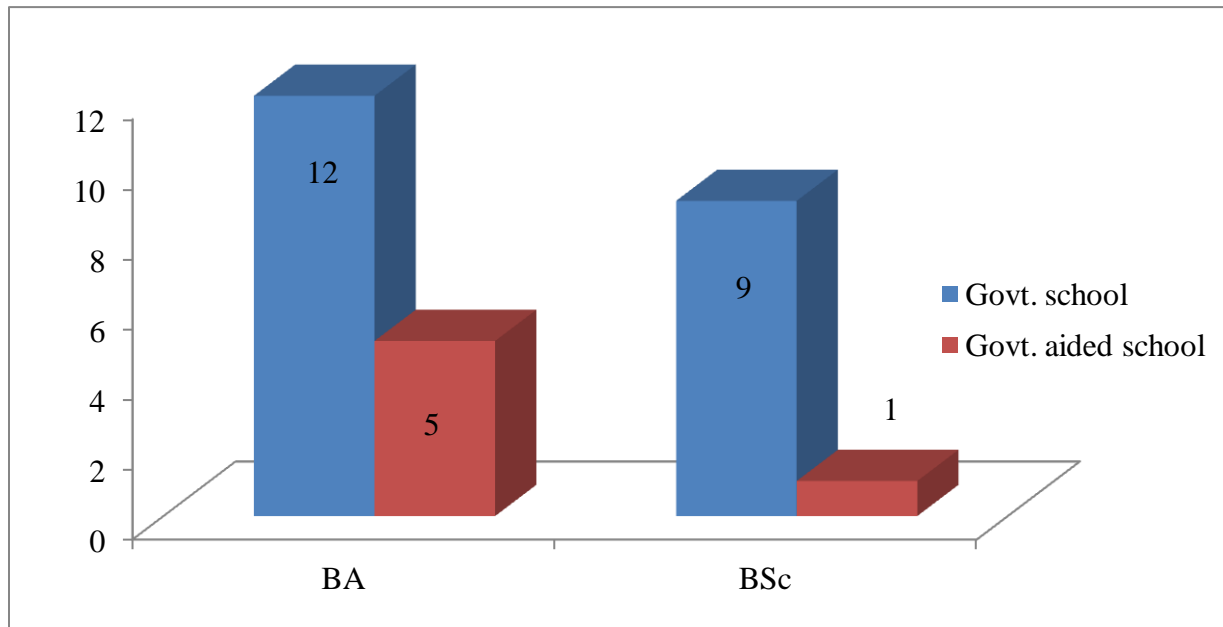
	Government	Government aided
Age (in years)	40.28 +/- 6.74	38.6 +/- 6.45
Gender distribution		
Male	9	2
Female	16	5
Undergraduate training		
BA	12	5
BSc	9	1
Others	1	0
Post-graduate training		
MA	10	5
MSc	7	1
Teacher training qualification		
B.Ed	18	4
M.Ed	1	0
Others	5	3

**Figure 1 - Teacher demographics in Govt. and Govt. aided schools based on gender**



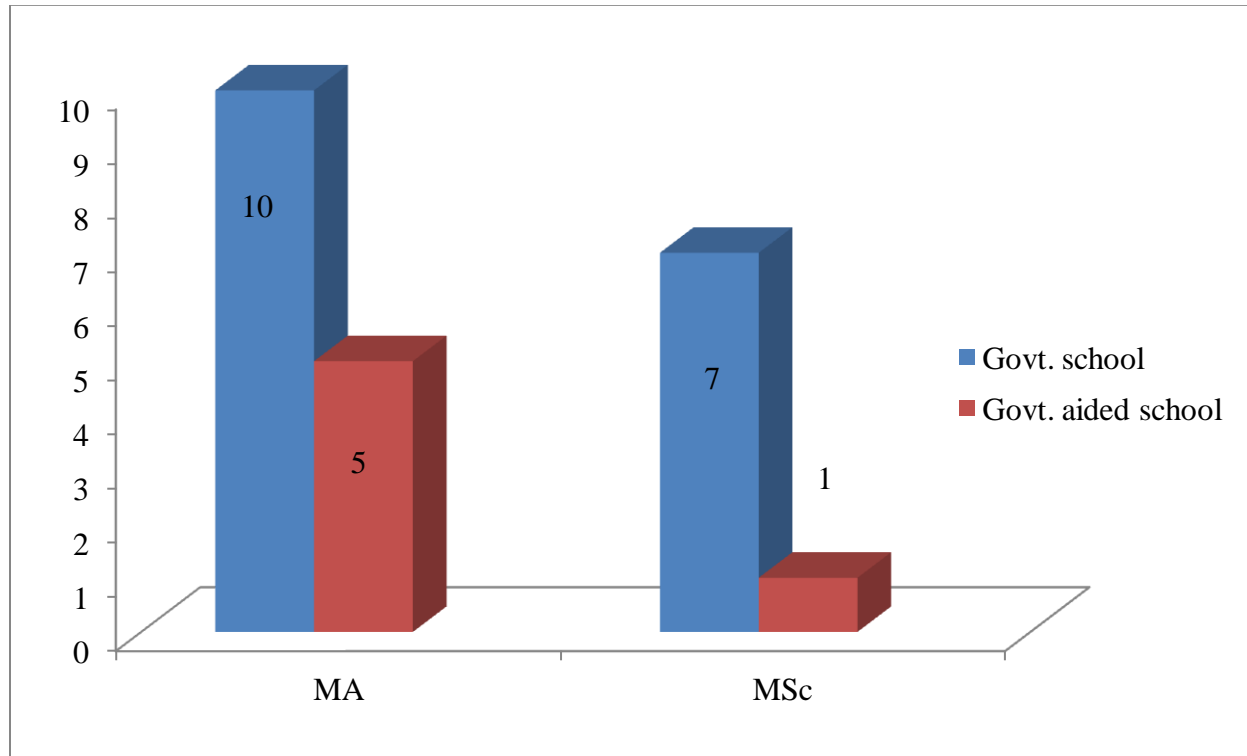
There were 28 teachers who graduated out of which 17 teachers had a BA and 10 teachers BSc. Among those who had a BA, 12 were from government schools and 5 from government aided schools and among those who had a BSc 9 were from government school and one teacher was from government aided school. There was no significant difference in distribution in between these groups ( $P=0.42$ ). Out of four teachers who has not done graduation one teacher had TTC (teacher training course) in drawing and three teachers had DTED (diploma in teacher education).

**Figure 2 - Teacher demographics in Govt. and Govt. aided schools based on graduate qualification**



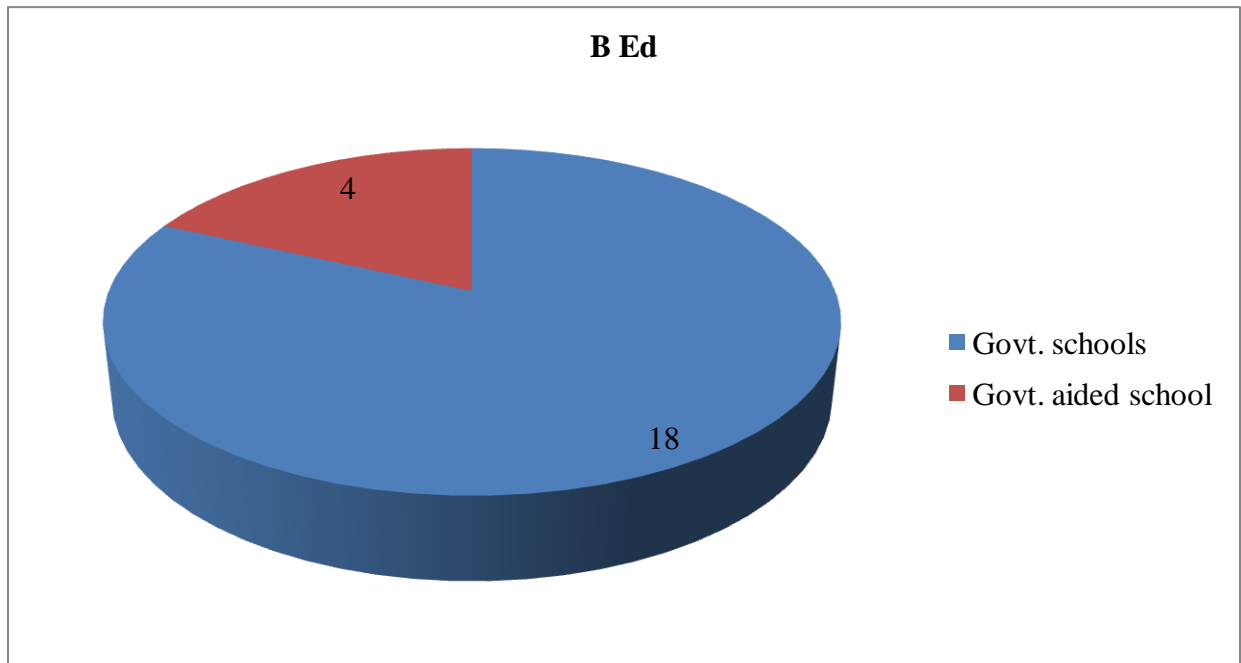
Among the 32 teachers who completed training, only 23 had an additional post-graduate training. Among those with higher training, 15 teachers had a MA and 8 teachers had a MSc. Out of 15 teachers who completed MA, 10 teachers were from government schools and 5 teachers were from government aided schools. Out of 8 teachers who completed MSc, 7 teachers were from government schools and one teacher was from government aided school. There was no significant difference in distribution in between these groups (P=0.278)

**Figure 3 - Teacher demographics in Govt. and Govt. aided schools based on PG qualification**



There were 22 teachers who completed B.Ed out of which 18 were teaching in the government schools and 4 in the government aided schools. Only one teacher from government school had completed M.Ed. There was no significant difference in distribution in between these groups (P=0.46)

**Figure 4 - Teacher demographics in Govt. and Govt. aided schools based on teaching qualification**

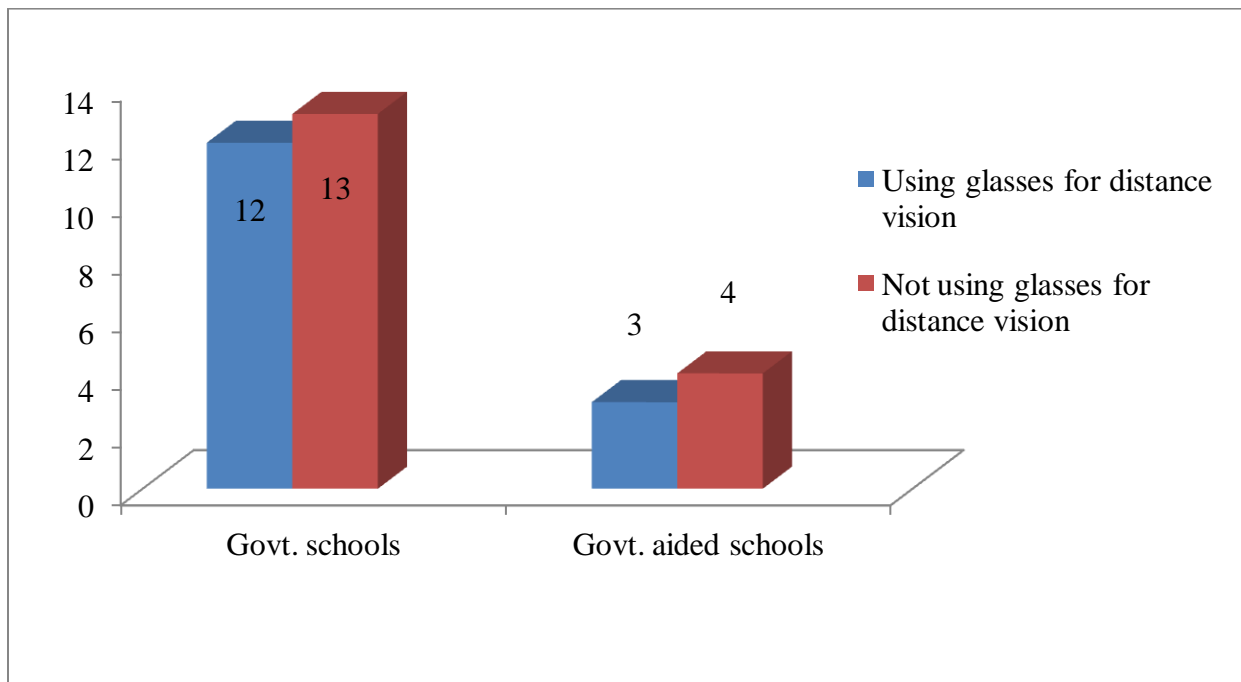


The number of years of teaching experience among government teachers was 10.92 +/- 4 years and among government aided teachers were 15.4 +/- 6.96 years. There was no significant difference in distribution in between these groups (P=0.12)

Eight teachers taught science as their subject of which 3 were from government school and 5 teachers from government aided schools. Out of 24 teachers who taught subjects other than science, 20 teachers were from government schools and 4 teachers were from government aided schools. There was no significant difference in distribution in between these groups (P=0.21)

There were 17 teachers who were using glasses for distance vision out of which 13 teachers were from government schools and 4 teachers from government aided schools. There was no significant difference in distribution in between these groups (P=0.810)

**Figure 5 - Teacher demographics in Govt. and Govt. aided schools based on spectacle usage for distance vision**

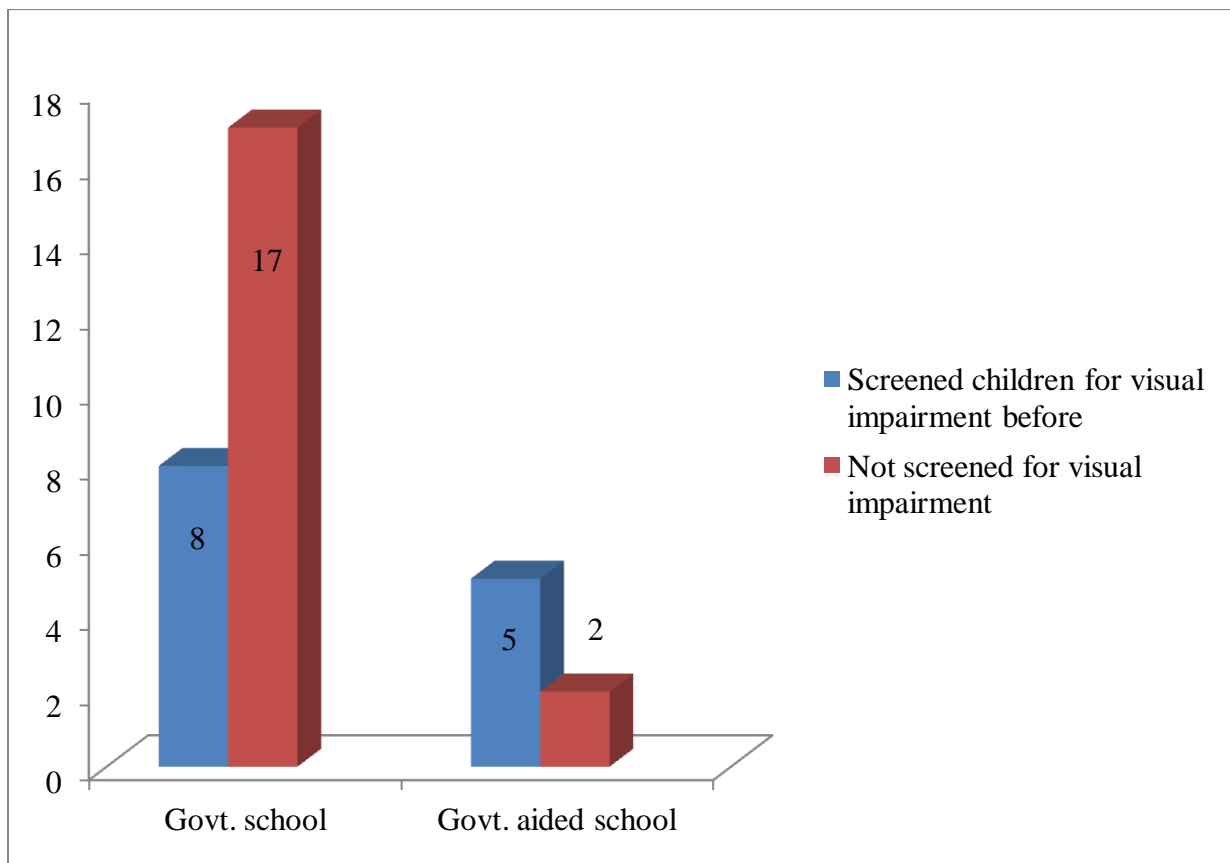


There were no teachers in both government and government aided schools who had previously undergone training to detect uncorrected refractive error in school children.



Even though none of the teachers had any previous formal training in screening for refractive error, 13 teachers had mentioned that they had conducted screening of school children for visual impairment, 8 from government and 5 from government aided schools. There was no significant difference in distribution in between these groups ( $P=0.06$ )

**Figure 6 - Teacher demographics in Govt. and Govt. aided schools based on screened for visual impairment before and not had any training**



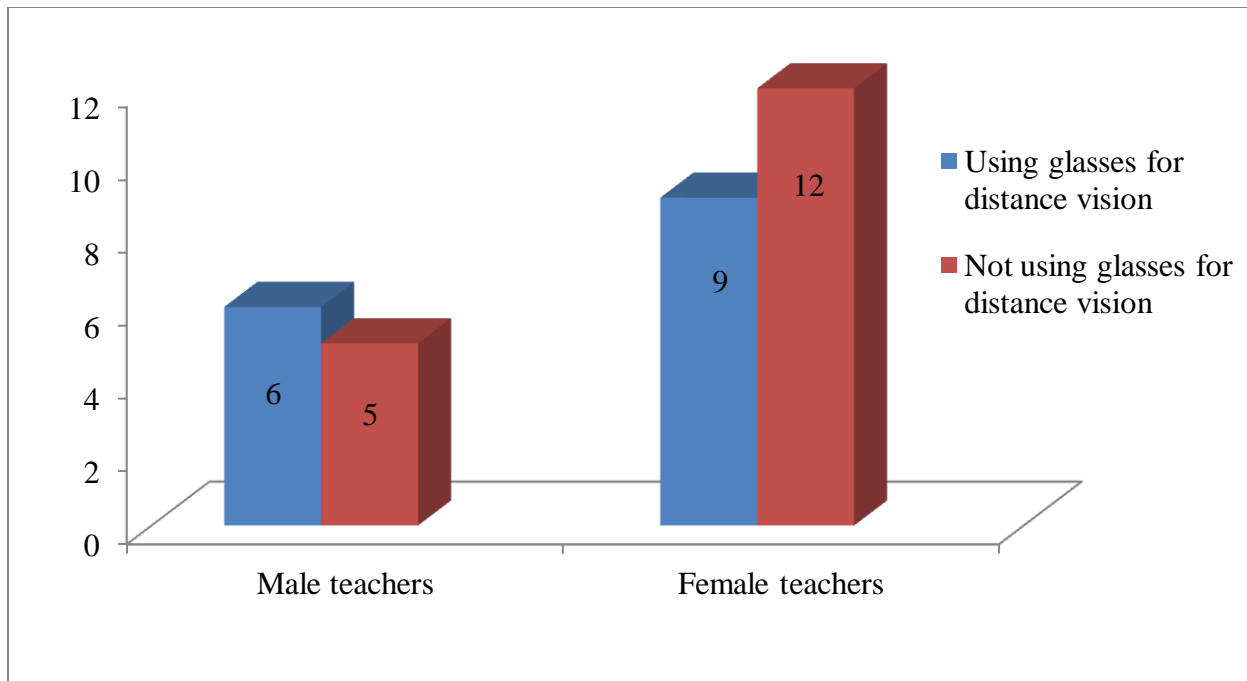
Teachers were also divided into 2 groups based on whether they wore spectacles or not to look for any difference in their characteristics in their groups to be able to predict if they had a better sensitivity and specificity to detect errors in the children they would screen.

**Table 4 -Teacher demographic characteristics (using spectacles and not using spectacles)1**

	Not wearing spectacles for distant vision	Wearing spectacles for distant vision
Age (in years)	36.35 +/- 6.33	43.93 +/- 4.28
Gender distribution		
Male	5	6
Female	12	9
Undergraduate training		
BA	8	9
BSc	7	3
Others	0	1
Post-graduate training		
MA	6	9
MSc	6	2
Teacher training qualification		
B.Ed	13	9
M.Ed	0	1
Others	4	4

There were 17 teachers who were not using glasses for distance vision of which 5 were male teachers and 12 female teachers. There were 15 teachers who were using glasses for distance of which there were 6 male teachers and 9 female teachers.

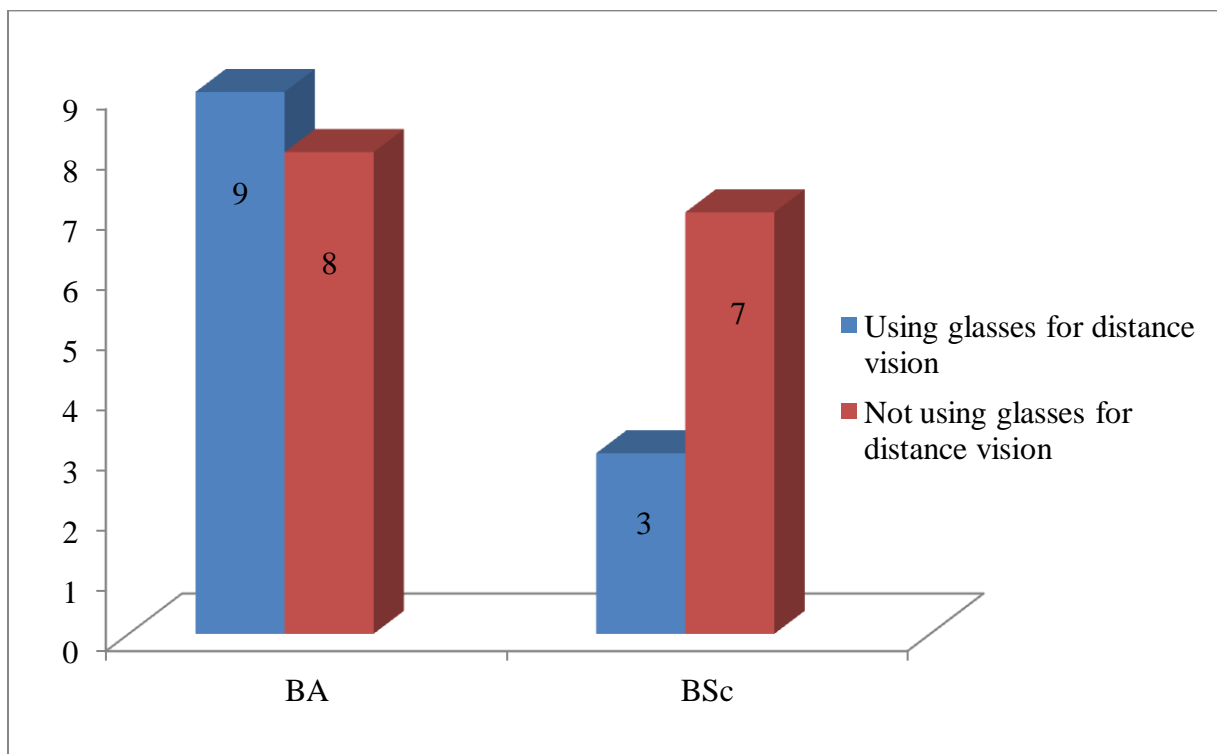
**Figure 7 - Teacher demographics for spectacle usage for distance vision based on gender**



The mean age of teachers not using glasses for distance vision was 36.35 +/- 6.33 years and 43.93 +/- 4.28 years for teachers using glasses for distance vision.

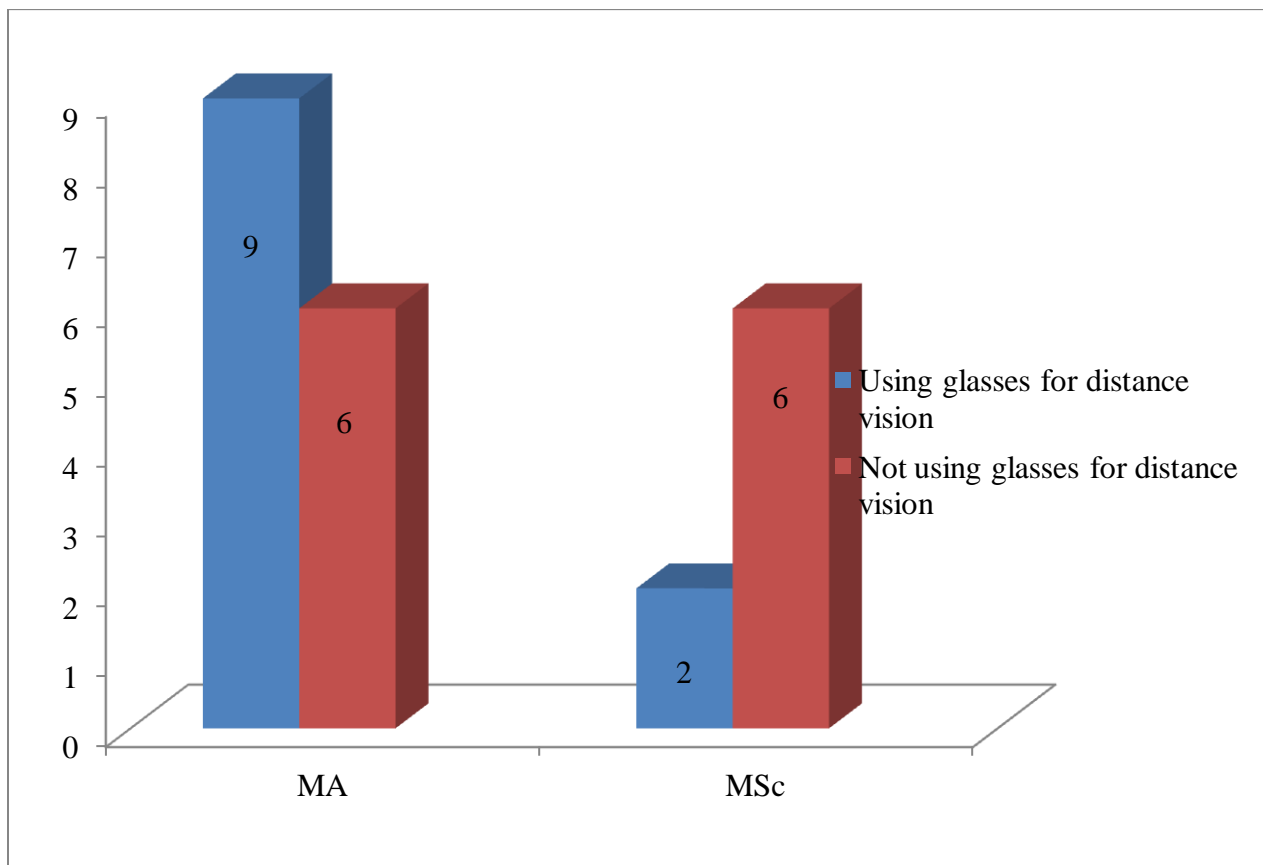
Out of 17 teachers who had completed BA, 8 teachers were not using glasses for distance vision and 9 teachers were using glasses for distance vision. In teachers who had completed BSc 7 teachers are not using glasses for distance vision and 3 teachers are using glasses for distance vision. There was no significant difference in distribution in between these groups (P=0.28).

**Figure 8 - Teacher demographics for spectacle usage for distance vision based on graduate qualification**



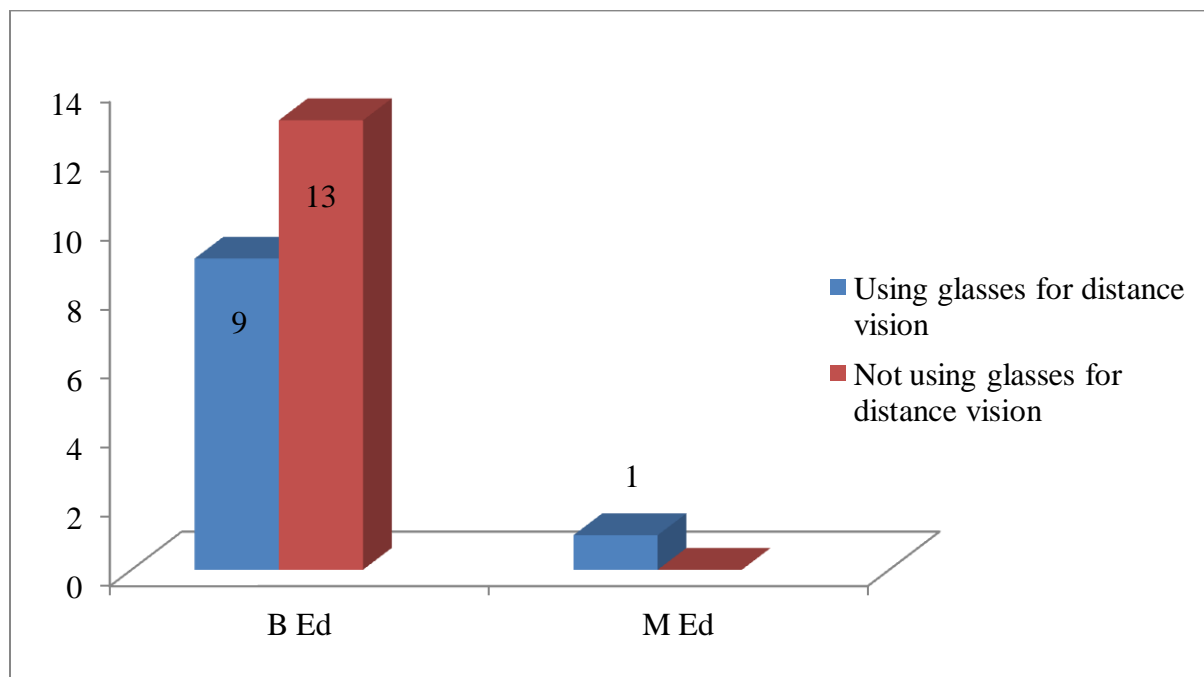
Among the 15 teachers who had completed MA, 6 teachers were not using glasses and 9 were using glasses for distance vision. Out of 8 teachers who had completed MSc, 6 teachers were not using glasses for distance vision and 2 teachers were using glasses for distance vision. There was no significant difference in distribution in between these groups (P=0.11)

**Figure 9 - Teacher demographics for spectacle usage for distance vision based on post graduate qualification**



Among 22 teachers who completed B.Ed training, 13 teachers were not using glasses for distance vision and 9 teachers were using glasses for distance vision. The teacher who had completed M.Ed was using glasses for distance vision. There was no significant difference in distribution in between these groups ( $P=0.484$ )

**Figure 10 - Teacher demographics for spectacle usage for distance vision based on teaching qualification**



**Table 5 - Teacher demographic characteristics (using spectacles and not using spectacles) 2**

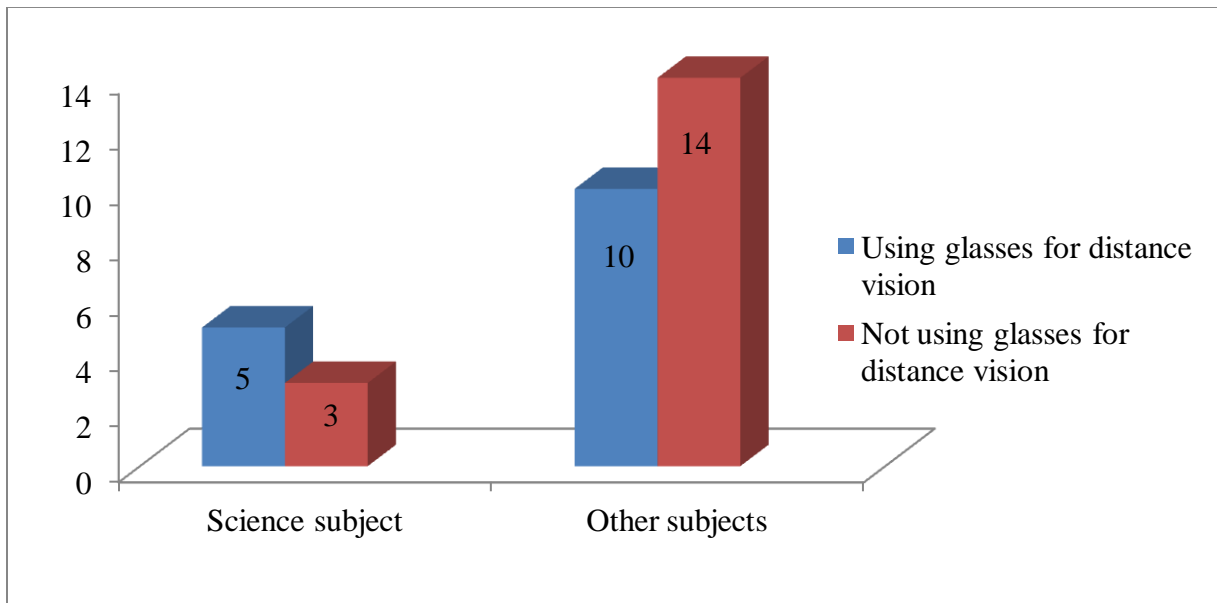
	Not wearing spectacles for distant vision	Wearing spectacles for distant vision
Years of teaching experience (in years)	9.7 +/- 3.99	14.2 +/- 5.00
Subject distribution		
Science	3	5
Others	14	10
Type of school		
Government	13	12
Government Aided	4	3
Screened for uncorrected refractive error before		
Yes	4	9
No	13	6

The mean years of teaching experience in teachers not using glasses for distance vision was 9.7 +/- 3.99 years and in teachers using glasses for distance vision was 14.2 +/- 5.00 years.

Among 8 teachers who taught science subject 3 teachers, were not using glasses for distance vision and 5 teachers were using glasses for distance vision. There were 14 teachers teaching subject other than science and not using glasses for distance vision. There were 10 teachers

teaching subject other than science and using glasses for distance vision. There was no significant difference in distribution in between these groups ( $P=0.30$ ).

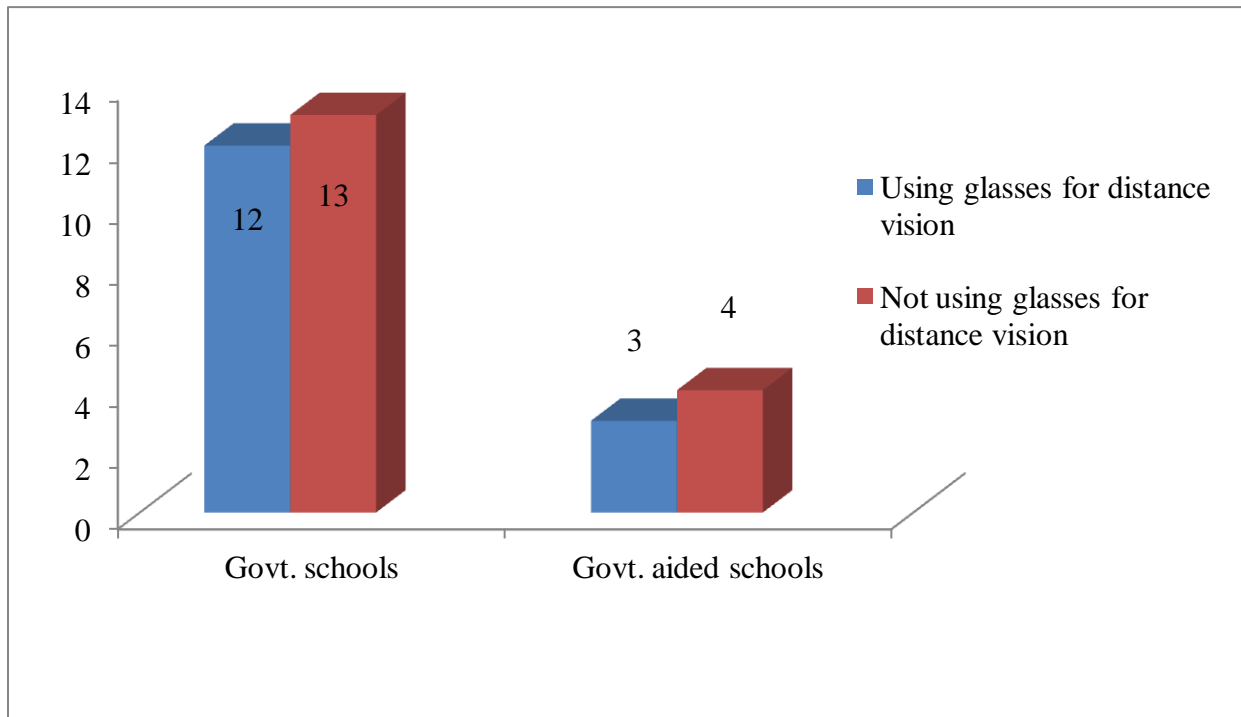
**Figure 11 - Teacher demographics for spectacle usage for distance vision based on subject taught at school**



There were 13 teachers from government school and 4 teachers from government aided school who were not using glasses for distance vision. Among teachers who were using glasses for distance vision 12 are from government school and 3 were from government aided school.



**Figure 12 - Teacher demographics for spectacle usage for distance vision based on type of school they are working**



Among 17 teachers who were not using glasses for distance vision, 4 teachers had screened children for visual impairment before and among 15 teachers who were using glasses for distance vision 9 teachers had screened school children for visual impairment before. There was no significant difference in distribution in between these groups (P=0.03)

### Children Demographic characteristics

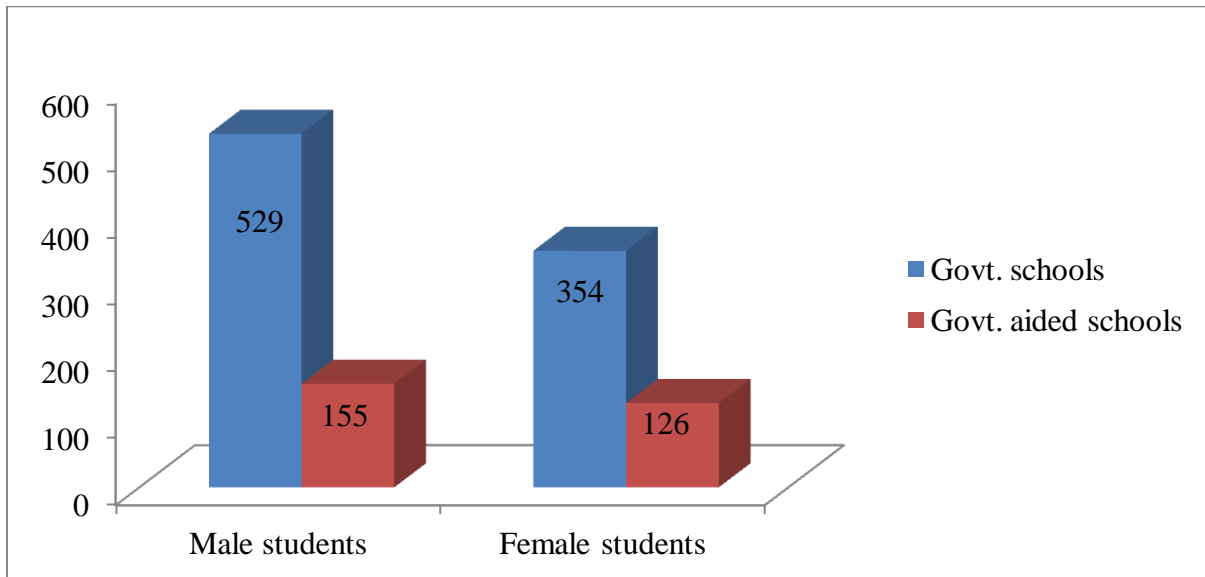
A total of 1164 children were screened from the 6 schools in the classes 5 to 9. The table shows their distribution based on gender.

**Table 6 – Distribution of children in the various classes in the government and government aided schools**

Class	Government		Government aided	
	Male	Female	Male	Female
5	22 students	31 students	41 students	24 students
6	119 students	66 students	34 students	34 students
7	117 students	76 students	39 students	33 students
8	143 students	78 students	41 students	35 students
9	128 students	103 students		
Total	529 students	354 students	155 students	126 students

There were 45.44% boys and 30.41% girls in the government schools and 13.31% boys and 10.82% girls in the government aided schools

**Figure 13 – Number of students for gender based on type of school they are studying**



**Screening done by teachers**

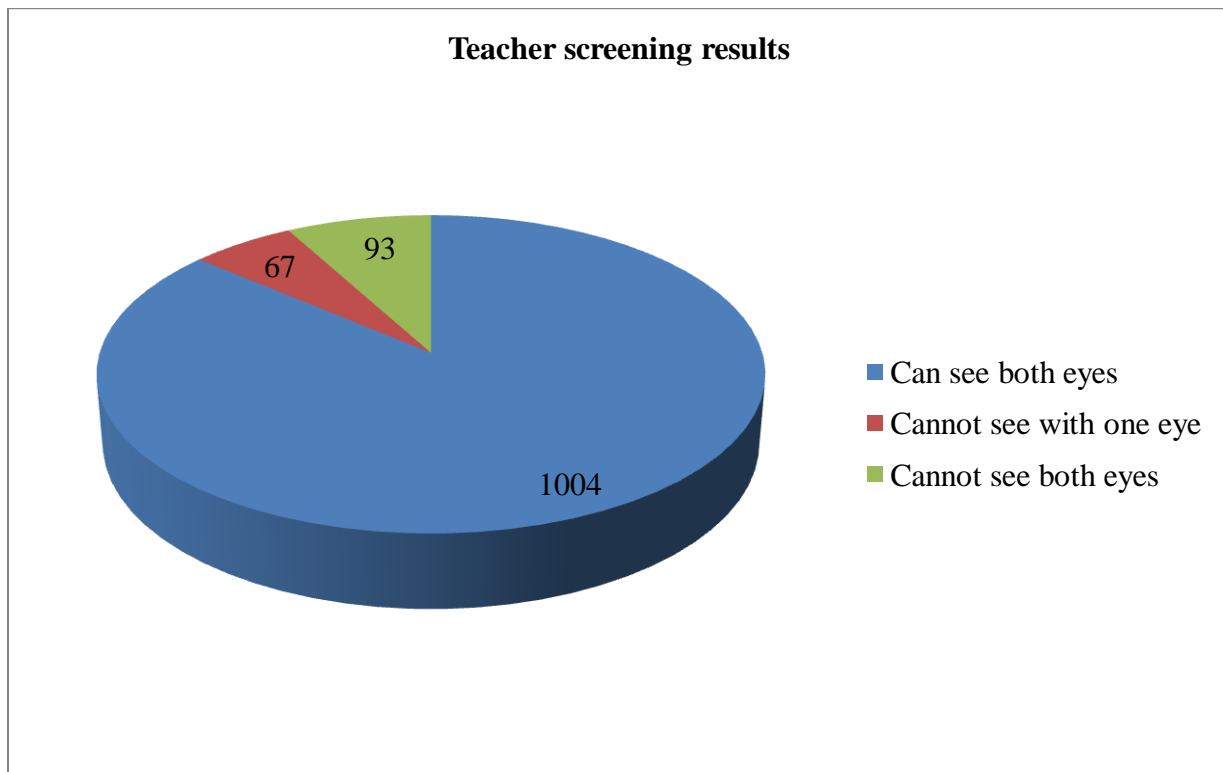
The results of the screening done by the teachers is as below –

**Table 6 – Class wise results of screening done by teachers**

Class	Teacher screening		
	Can See both eyes	Cannot See both eyes	Cannot see one eye
5	108 students	5 students	5 students
6	215 students	16 students	22 students
7	228 students	20 students	17 students
8	259 students	25 students	13 students
9	194 students	27 students	10 students
Total	1004 students	93 students	67 students

Among the children screened by the teachers, 86.25% could see with 6/12 card with both eyes individually, 5.75% of them could not see the 6/12 card with either one eye and 7.98% could not see the 6/12 with both eyes when separately checked.

**Figure 14 – Screening results for trained teachers using teacher’s card**



## Screening by optometrist

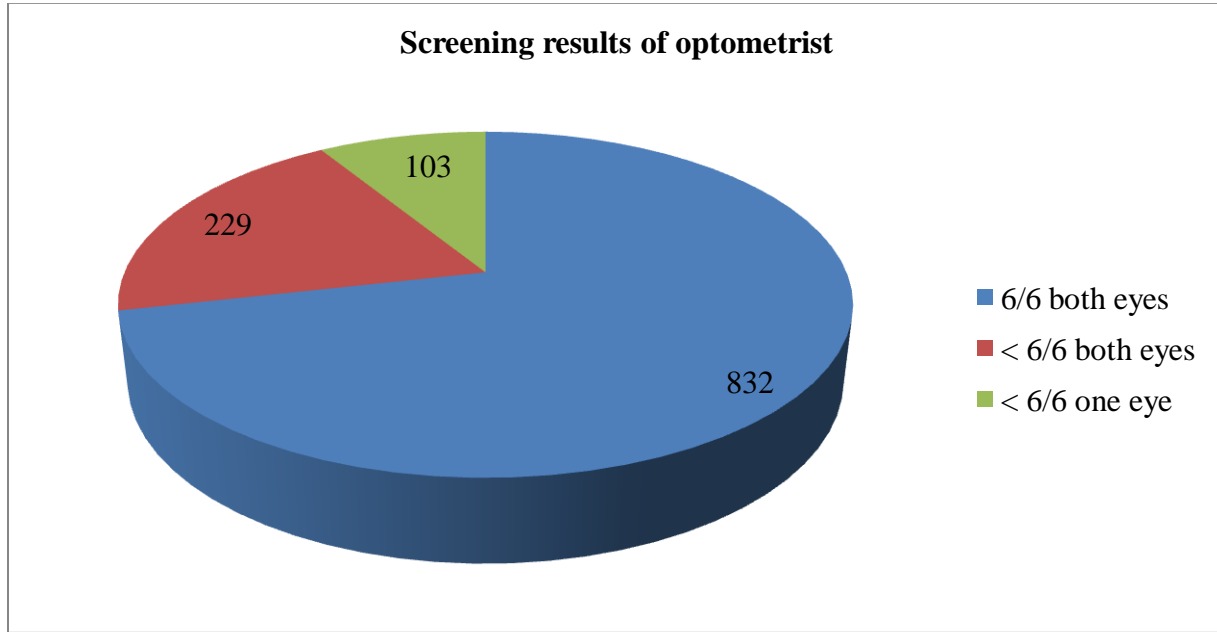
The results of the screening done by the Optometrist who was used as the gold standard is given below

**Table 7 – Class wise results of screening done by Optometrist with VA 6/6 as cut off**

Class	Optometrist		
	6/6 both eyes	< 6/6 both eyes	< 6/6 one eye
5 <sup>th</sup>	86 students	15 students	17 students
6 <sup>th</sup>	177 students	46 students	30 students
7 <sup>th</sup>	188 students	57students	20 students
8 <sup>th</sup>	213 students	68 students	16 students
9 <sup>th</sup>	168 students	43 students	20 students
Total	832 students	229 students	103 students

Results of the Optometrist screening showed that 71.4% of the children could see 6/6 with both eyes, 8.84% had vision <6/6 with one eye at least and 19.67% had vision less than 6/6 in both eyes.

**Figure 15 – Screening results for optometrist using Snellen’s E chart with visual acuity 6/6 as cutoff**

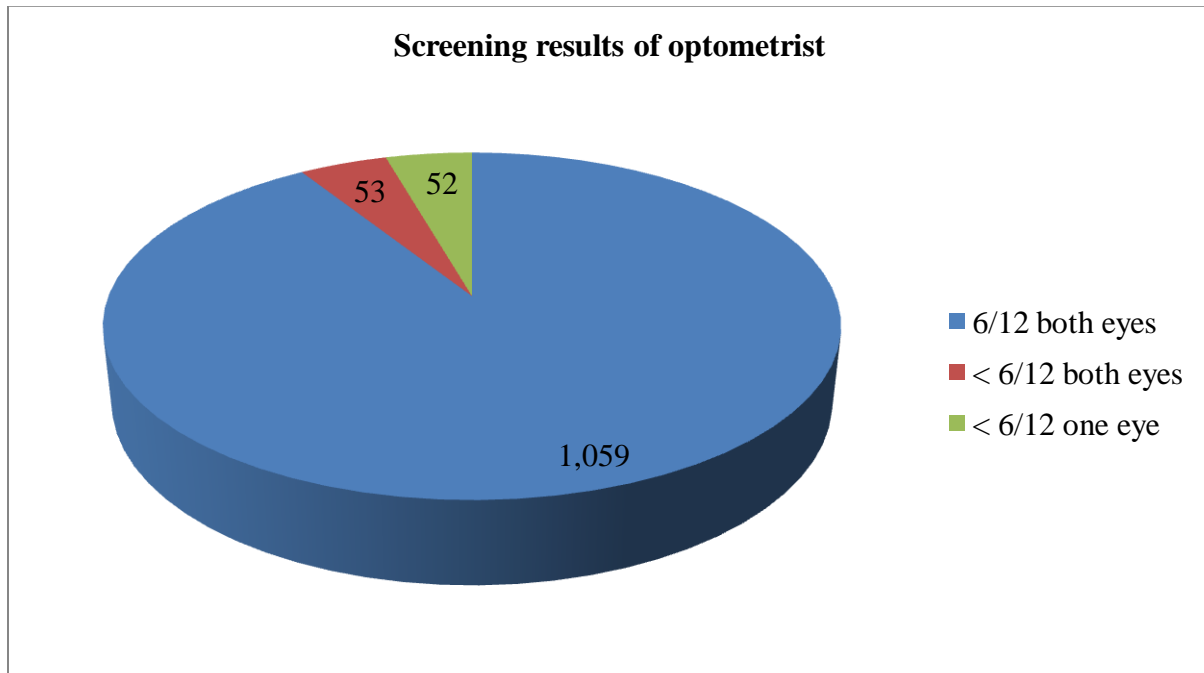


**Table 8 – Class wise results of screening done by Optometrist with VA 6/12 as cut off**

Class	Optometrist		
	Better than 6/12 both eyes	< 6/12 both eyes	< 6/12 one eye
5 <sup>th</sup>	112 students	2 students	4 students
6 <sup>th</sup>	233 students	11 students	9 students
7 <sup>th</sup>	237 students	15 students	13 students
8 <sup>th</sup>	268 students	15 students	14 students
9 <sup>th</sup>	209 students	10 students	12 students
Total	1,059 students	53 students	52 students

Results of the Optometrist screening showed that 90.97% of the children could see 6/12 with both eyes, 4.46% had vision <6/12 with one eye at least and 4.55% had vision less than 6/12 in both eyes.

**Figure 16 – Screening results for optometrist using Snellen’s E chart with visual acuity 6/12 as cutoff**



### Effectiveness of training program

The overall sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive errors in school children compared to optometrist is 38.3%, 96% and 79.4% respectively when using the optometrist definition of 6/6 in both eyes being recorded as no refractive error. The results of sensitivity, specificity and positive predictive value when 6/12 was used as the cut-off by the Optometrist is 66.4%, 91.8% and 45.9% respectively.

### Based on teachers characteristics

**Table 9 – Sensitivity, specificity and positive predictive value based on teacher demographics with visual acuity cut off for 6/6 and 6/12 by optometrist as gold standard**

Teacher characteristic	Sensitivity		Specificity		Positive Predictive Value	
	6/6 as cutoff	6/12 as cutoff	6/6 as cutoff	6/12 as cutoff	6/6 as cutoff	6/12 as cutoff
Age less than 40 years	34.5%	64.40%	96.4%	91.80%	81%	47.50%
Age more than 40 years	43.7%	62.80%	95.60%	91.50%	77.60%	39.70%
Teaching experience <=12 years	41%	69.10%	96.10%	90.50%	82.90%	50.50%
Teaching experience	33.30%	58.60%	96%	93.50%	72.70%	35.40%



<=12 years						
Govt School	50.20%	71.90%	96.8%	90.10%	86.50%	46.90%
Govt aided school	23.90%	28.60%	99.50%	97%	90.10%	33.30%
Teacher teaching science subject	52.90%	67.10%	98.80%	92.40%	91%	47.10%
Teachers teaching other subjects	43.90%	64%	97.10%	91.60%	86.20%	42.10%
Teachers screened for visual impairment before	47.40%	69%	98%	92.90%	87.90%	48.30%
Teachers not screened for visual impairment before	45.20%	63.60%	97.50%	91.10%	87.30%	45.20%

In teachers with age less than 40 years the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 34.5%, 96.4%, 81% respectively. In

teachers with age more than 40 years the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 43.7%, 95.6%, 77.6% respectively.

In teachers from government schools the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 50.2%, 96.8%, 86.5% respectively.

In teachers from government aided schools the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 23.9%, 99.5%, 90.1% respectively.

In teachers teaching science subject the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 52.9%, 98.8%, 91% respectively. In teachers teaching subjects other than science the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 43.9%, 97.1%, 86.2% respectively.

In teachers who have screened children for visual impairment before the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 47.4%, 98%, 87.9% respectively. In teachers with age more than 40 years the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 43.7%, 95.6%, 77.6% respectively.

**Table 10 – Sensitivity, specificity and positive predictive value based on teacher demographics with visual acuity cut off for 6/6 and 6/12 by optometrist as gold standard 2**

Teacher characteristic	Sensitivity		Specificity		Positive predictive value	
	6/6 as cutoff	6/12 as cutoff	6/6 as cutoff	6/12 as cutoff	6/6 as cutoff	6/12 as cutoff
Graduate teachers	64.70%	86.60%	100%	94%	100%	52.80%
Post graduate teachers	44.70%	94%	96.60%	91%	83.20%	43.90%
Teachers not done graduation	48.90%	77.50%	99.60%	91.50%	97.20%	45.10%

In teachers who have completed graduation the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 64.7%, 100%, 100% respectively. In teachers who have completed post graduation the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 44.7%, 96.6%, 83.2% respectively. In teachers who have not done graduation the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 48.9%, 99.6%, 97.2% respectively.

**Based on children characteristics**

**Table 11 - Sensitivity, specificity and positive predictive value based on children demographics**

Child characteristic	Sensitivity	Specificity	Positive Predictive Value
Children wearing glasses	55.3%	96.5%	79.4%
Children not wearing glasses	41.8%	98.7%	93.2%
Male students	43.9%	98.3%	90.2%
Female students	49.4%	84.2%	84.6%

In screening of children who are using glasses the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 55.3%, 96.5%, 79.4% respectively. In screening of children who are not using glasses the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 41.8%, 98.7%, 93.2% respectively.

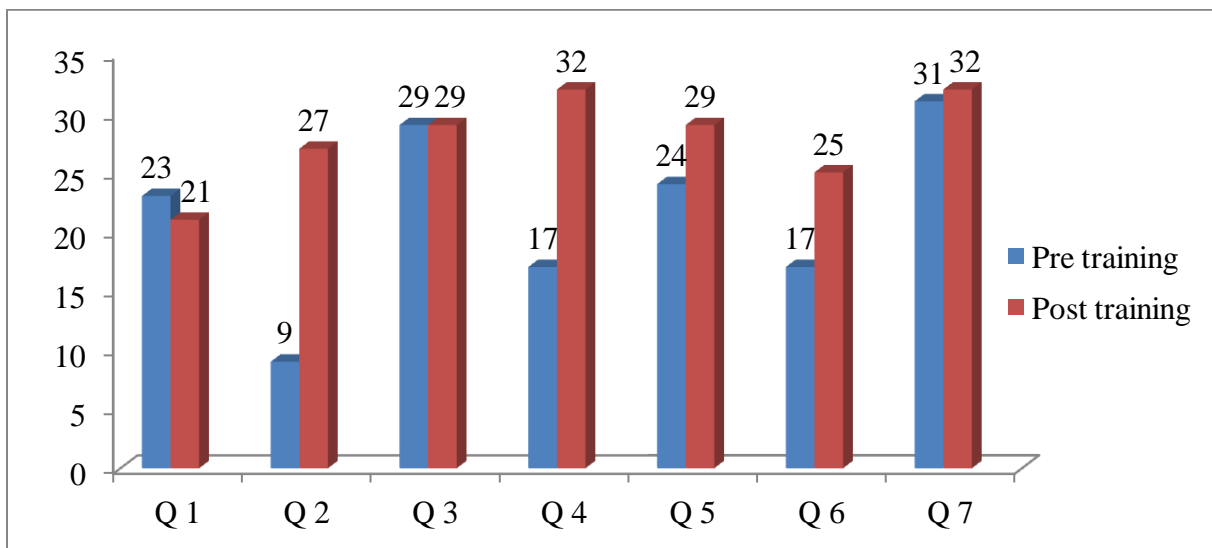
In screening of male children the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 43.9%, 98.3%, 90.2% respectively. In screening of female children the sensitivity, specificity and positive predictive value of trained teachers in detecting uncorrected refractive error are 49.4%, 84.2%, 84.6% respectively.

**Knowledge and practice regarding refractive errors in children among school teachers**

**Table 12 - Number of teachers who has given correct response for each question**

	Correct Pre-test score	Correct Post-test score
Question 1	23 teachers	21 teachers
Question 2	9 teachers	27 teachers
Question 3	29 teachers	29 teachers
Question 4	17 teachers	32 teachers
Question 5	24 teachers	29 teachers
Question 6	17 teachers	25 teachers
Question 7	31 teachers	32 teachers

**Figure 17 – Number of teachers giving correct response for each question**



The minimum, maximum and median pre training test score among all school teachers is 2, 7 and 5 respectively and minimum, maximum and median post training test score among school

teachers is 4, 7 and 6 respectively. There was significant improvement in knowledge and practice regarding refractive errors among school children ( $P < 0.001$ )

**Table 12 – Pre training and post training knowledge and practice scores of teachers**

	Minimum score	Maximum score	Median score
Pre training	2	7	5
Post training	4	7	6

**Table 13 – Pre training and post training knowledge and practice scores of teachers based on school they are teaching**

	Government school teachers	Government aided school teachers
Pre-test scores		
Minimum	2	4
Maximum	7	7
Mean Score	4.64	4.86
Post-test scores		
Minimum	4	6
Maximum	7	7
Mean Score	6.08	6.29

There was no significant difference in score between both the groups ( $P=0.86$ )

**Table 14 - Pre training and post training knowledge and practice scores of teachers based on spectacle usage by teachers**

	Not wearing spectacles for distant vision	Wearing spectacles for distant vision
Pre-test scores		
Minimum	2	2
Maximum	7	7
Mean Score	4.64	4.73
Post-test scores		
Minimum	4	5
Maximum	7	7
Mean Score	6.05	6.2

There was no significant difference in score between both the groups (P=0.68)

**Table 15 – Pre training and post training knowledge and practice scores of teachers based on graduate qualification**

	BA	BSc
Pre-test scores		
Minimum	2	3
Maximum	7	7
Mean Score	4.70	5.30
Post-test scores		
Minimum	4	4

Maximum	7	7
Mean Score	6.33	6.20

There was no significant difference in score between both the groups (P=0.29)

**Table 16 – Pre training and post training knowledge and practice scores of teachers based on Post graduate qualification**

	MA	MSc
Pre-test scores		
Minimum	2	4
Maximum	7	7
Mean Score	4.73	5.62
Post-test scores		
Minimum	4	6
Maximum	7	7
Mean Score	5.86	6.50

There was no significant difference in score between both the groups (P=0.14)

**Table 17 – Pre training and post training knowledge and practice scores of teachers based on teaching qualification**

	B Ed	M Ed
Pre-test scores		
Minimum	2	6
Maximum	7	6



Mean Score	4.90	6
Post-test scores		
Minimum	4	6
Maximum	7	6
Mean Score	6.18	6

These groups cannot be compared as there is numbers of individuals are different

**Table 18 – Pre training and post training knowledge and practice scores of teachers based on screened for visual impairment before**

	Screened for visual impairment before	Not screened for visual impairment before
Pre-test scores		
Minimum	2	2
Maximum	7	7
Mean Score	4.61	4.73
Post-test scores		
Minimum	4	4
Maximum	7	7
Mean Score	6.00	6.21

There was no significant difference in score between both the groups (P=0.82)

**Table 19 – Pre training and post training knowledge and practice scores of teachers based on age of teacher**

	<= 40 years	>40 years
Pre-test scores		
Minimum	2	2
Maximum	7	7
Mean Score	4.70	4.66
Post-test scores		
Minimum	4	4
Maximum	7	7
Mean Score	6.29	5.93

There was no significant difference in score between both the groups (P=0.94)

**Table 20 – Pre training and post training knowledge and practice scores of teachers based on years of teaching experience**

	<= 12years	>12 years
Pre-test scores		
Minimum	2	3
Maximum	7	7
Mean Score	4.38	5.07
Post-test scores		
Minimum	4	5
Maximum	7	7
Mean Score	6.00	6.28

There was no significant difference in score between both the groups (P=0.19)

## Discussion

Children with refractive error can have good vision if corrected by spectacles. If vision of child is improved his/her quality of life improves and academic performance and social performance also improves. There are many barriers for non utilization of refractive services by children.

One way to overcome most of these barriers is to conduct outreach programs for refractive services so that all children in the community can be reached. Lack of trained personnel is an important issue in conducting outreach refractive services. School teachers were being used as initial screeners in Sarva Shikshya Abhyan for identifying children with visual impairment. We conducted a study to know sensitivity, specificity and positive predictive value of trained school teacher in picking uncorrected refractive error in school children.

Out of 34 teachers enrolled in the study 32 teachers were included in the study. These 32 teachers screened 1,164 children.

The mean age of teachers in government schools was 40.28 $\pm$  6.74 years and teachers from government aided schools were 38.6  $\pm$  6.45 years.

. The minimum years of teaching experience among teachers was 1 year and maximum of 24 years with median of 12 years.

Numbers of teachers from government schools were 25 and the numbers of teachers from government aided schools were 7. There were 8 teachers who teach science subject and 24 teachers teaching subject other than science.

Number of teachers using glasses for distance vision is almost equal with 15 teachers using glasses for distance vision and 17 teachers not using glasses for distance vision. There number of teachers who had screened for visual impairment was 13 teachers and 18 teachers had not screened children for visual impairment before.

Sensitivity, specificity and positive predictive value of trained teachers in detecting refractive errors in school children between classes 5<sup>th</sup> to 9<sup>th</sup> was 66.4% ,91.8% and 45.9% respectively for visual acuity of 6/12 as cutoff and 38.3%, 96% and 79.4% respectively for visual acuity cutoff of 6/6.

Xichang Pediatric Refractive Error Study ( XPRESS) report 6 done by Abhisek Sharma & Liping etal reported sensitivity and specificity of 93.5% and 91.2% in Chinese children where myopia is more prevalent.(11)

A study conducted by Tabansi et al in Port Harcourt using 130 trained teachers to screen 1300 school children reported sensitivity and specificity as 53.3% and 94.6% respectively. Our study had higher sensitivity but lower specificity for visual acuity of 6/12 as cutoff and lower sensitivity but higher specificity for visual acuity 6/6 as cutoff. (77)

Limburg et al reported sensitivity and specificity of 64% and 93% respectively in children between 6<sup>th</sup> to 8<sup>th</sup> standard in Maharashtra. We had similar sensitivity and specificity as this study only difference is that large numbers of children were screened and 292 trained teachers were used. Positive predictive value reported was 34% but we had higher positive predictive value of 45.9%.(12)

Srinivas reddy et al conducted a study in Andhra Pradesh using 51 teachers to screen 2768 children between 10-15 years and reported sensitivity and specificity of 77.7% and 83.9%

respectively. Our study had lower sensitivity but higher specificity for visual acuity of 6/12 as cutoff and visual acuity of 6/6 as cutoff compared to this study. In their study screening by teachers and ophthalmic personnel was not done on same day and ophthalmic personnel screened only 10% of children who were said to be normal by teachers. (74)

Gupta et al conducted a similar study in Shimla and reported a sensitivity and specificity of 81.5% and 92.5% respectively. Our study had low sensitivity but comparable specificity with their study. Teachers in their study used ETDRS chart for visual acuity testing and 6/9 was taken as visual impairment compared to our study teachers used E Card of 6/12 Snellen optotype. Children screened in their study were between age group of 5 to 15 years. (75)

The percentage of false positive in our study was 33.6% and false negative was 8.2% in our study

A study conducted by Sudhan et al in Madhya Pradesh reported false positive and false negative as 57.97% and 6.08%. Our study had less false positives and more false negatives. In their study Ophthalmic assistant screened only 1% of children who were said normal by teachers and screening was not done on same day so some children who were said to have visual impairment were not screened due to absenteeism compared to our study where doctor screened all the children screened by teachers and screening by doctor and teacher was done on the same day which eliminates chance of child missed due to absenteeism between teacher screening and doctor screening. Their study had larger sample size for optometrist to screen all students teachers had screened and on the same day. (73)

C.S Dhull et al reported a false positive rate of 2.2% and false negative rate of 7.8% which is low compared to our study. In their study children between 5-10 years were screened, cutoff of 6/9

was used for visual impairment by school teachers and number of students screened is less which could have given very low false positive and false negative rate. (76)

### **Factors affecting specificity, sensitivity, negative predictive value and positive predictive value of school teachers in detecting uncorrected refractive errors in children**

The influence of factors like age, gender, educational qualification, teaching qualification, years of teaching experience, School they are working, subject taught by teacher, using or not using glasses and whether screened for visual impairment on sensitivity, specificity, positive predictive value and negative predictive value was analyzed.

Based on median age of teachers 40 years was taken as cutoff and sensitivity, specificity and positive predictive value for teachers less than 40 years of age was 64.4%, 91.8% and 47.5% respectively and for teachers aged more than 40 years was 62.8%, 91.50% and 39.7% respectively.

Teachers with post graduate qualification sensitivity, specificity and positive predictive value were 86.60%, 91% and 43.90% respectively for visual acuity of 6/12 as cutoff and 44.70%, 96.60% and 83.20% respectively for visual acuity of 6/6 as cutoff

Teachers with graduate qualification sensitivity, specificity and positive predictive value were 94%, 94% and 52.8% respectively for visual acuity of 6/12 as cutoff and 64.70%, 100% and 100% respectively for visual acuity of 6/6 as cutoff

Based on median years of teaching experience teachers were divided into two groups and in teachers  $\leq 12$  years of teaching experience sensitivity, specificity and positive predictive value in picking refractive errors in school children was 76.5%, 90.50% and 50.50% respectively for

visual acuity 6/12 as cutoff and 41%, 96.10% and 82.90% respectively for visual acuity of 6/6 as cutoff.

Among teachers > 12 years of teaching experience sensitivity, specificity and positive predictive value in picking refractive errors in school children was 58.6%, 93.50% and 35.4% respectively for visual acuity 6/12 as cutoff and 33.3%, 96% and 72.7% respectively for visual acuity of 6/6 as cutoff.

Among teachers from government school sensitivity, specificity and positive predictive value in picking refractive errors in school children was 71.90%, 90.10% and 46.90% respectively for visual acuity 6/12 as cutoff and 50.2%, 96.8% and 86.5% respectively for visual acuity of 6/6 as cutoff.

Among teachers from government aided school sensitivity, specificity and positive predictive value in picking refractive errors in school children was 28.60%, 97% and 33.30% respectively for visual acuity 6/12 as cutoff and 23.90%, 99.50% and 90.10% respectively for visual acuity of 6/6 as cutoff.

Among teachers teaching science subject sensitivity, specificity and positive predictive value in picking refractive errors in school children was 67.10%, 92.40% and 47.10% respectively for visual acuity 6/12 as cutoff and 52.90%, 98.80% and 91% respectively for visual acuity of 6/6 as cutoff.

Among teachers teaching subjects other than science sensitivity, specificity and positive predictive value in picking refractive errors in school children was 64%, 91.6% and 42.10% respectively for visual acuity 6/12 as cutoff and 43.90%, 97.10% and 86.2% respectively for visual acuity of 6/6 as cutoff.

### **Knowledge and practice of teachers regarding refractive errors in children.**

On comparison of pre training and post training test scores there was significant improvement in knowledge and practice regarding refractive errors in children among school teachers after training ( $P < 0.001$ ).

The mean pre training test score among government school teachers was 4.64 and among government aided school teachers was 4.86 which improved to 6.08 among government school teachers and 6.29 among government aided school teachers. The difference in pre training score between both the groups was not significant ( $P = 0.86$ )

The mean pre training test score among teachers not using glasses was 4.64 and among teachers using glasses was 4.73 which improved to 6.05 among teachers not using glasses and 6.2 among teachers using glasses post training. The difference in pre training score between both the groups was not significant ( $P = 0.68$ )

The mean pre training test score among teachers who completed BA was 4.70 and among teachers who completed BSc was 5.30 which improved to 6.33 among teachers who completed BA and 6.2 among teachers who completed BSc post training. The difference in pre training score between both the groups was not significant ( $P = 0.29$ )

The mean pre training test score among teachers who completed MA was 4.73 and among teachers who completed MSc was 5.62 which improved to 5.86 among teachers who completed MA and 6.50 among teachers who completed BSc post training. The difference in pre training score between both the groups was not significant ( $P = 0.14$ )



The mean pre training test score among teachers less than age 40 years was 4.70 and among teachers more than 40 years was 4.66 which improved to 6.29 among teachers who were less than 40 years of age and 5.93 among teachers who were more than 40 years of age post training. The difference in pre training score between both the groups was not significant ( $P = 0.94$ )

The mean pre training test score among teachers who completed BA was 4.70 and among teachers who completed BSc was 5.30 which improved to 6.33 among teachers who completed BA and 6.2 among teachers who completed BSc post training. The difference in pre training score between both the groups was not significant ( $P = 0.29$ )

The mean pre training test score among teachers less than 12 years of teaching experience was 4.38 and among teachers more than 12 years of teaching experience was 5.07 which improved to 6.00 among teachers less than 12 years of teaching experience and 6.28 among teachers more than 12 years of teaching experience post training. The difference in pre training score between both the groups was not significant ( $P = 0.19$ )

In survey conducted by Nair et al regarding awareness of refractive errors in school teachers of Mysore they found that 80% of teachers were having adequate awareness regarding refractive errors which was comparable with our study. (82)

Thummalapalli et al reported a very pre training knowledge score (39.3%) among school teachers from Hyderabad regarding eye parts and functions of eye and common childhood eye problems and there was improvement in knowledge among teachers (63.7%) post training which was significant ( $p < 0.01$ ). Our study had higher pre training score regarding knowledge among school teachers probably due to difference in type of questions and small number of teachers in our study. (83)

## Conclusions

- The sensitivity, specificity and positive predictive value of trained teachers in detecting refractive errors in school children when 6/12 was used as the cut-off by the Optometrist is 66.4%, 91.8% and 45.9% respectively. This implies trained teachers can be used as initial screeners to detect benign condition like uncorrected refractive errors in school children.
- There is significant improvement in knowledge and practice of teachers regarding refractive errors in school children after teacher training which implies that training teachers before they screen children is useful.
- There is no significant difference in knowledge and practice of teachers based on age, years of teaching experience, type of school they are teaching, education qualification, subject taught by teacher and if they have screened for visual impairment before.

## Limitations

- All children were not screened by single optometrist due to practical difficulties.
- It would have been better if teachers screen children again after one year of training to see if there is any attrition in their knowledge but this was beyond scope of our study.
- Ideally cycloplegic refraction should have been done to the children who were having defective vision but this was beyond scope of our study.

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## Appendix 1 - Institutional review board approval letter



OFFICE OF RESEARCH  
INSTITUTIONAL REVIEW BOARD (IRB)  
CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA.

Dr. B.J. Prashanthan, M.A., M.A., Dr. Min (Clinical)  
Director, Christian Counseling Center,  
Chairperson, Ethics Committee.

Dr. Alfred Job Daniel, D Ortho, MS Ortho, DNB Ortho  
Chairperson, Research Committee & Principal

Dr. Nihal Thomas,  
MD., MNAMS., DNB (Endo), FRACP (Eado), FRCP (Glas) (EDIN)  
Deputy Chairperson  
Secretary, Ethics Committee, IRB  
Additional Vice Principal (Research)

November 29, 2013

Dr. Madhiraju Nandanandan  
PG Registrar  
Department of Ophthalmology  
Christian Medical College,  
Vellore 632 002

Sub: **External Research grant project:**  
(Sentinel Surveillance Unit Research Allocation)  
School Screening for Refractive Errors - determining the sensitivity and  
specificity of school teachers in detecting refractive errors in school.  
Dr. Madhiraju Nandanandan, PG Registrar, Ophthalmology, Dr. Smitha  
Jasper, Ophthalmology.

Ref: IRB Min No: 847L (OTHER) dated 25.09.2013

Dear Dr. Madhiraju Nandanandan,

The Institutional Review Board (Silvera Research and Ethics Committee) of the Christian Medical College, Vellore, reviewed and discussed your project titled "School Screening for Refractive Errors - determining the positive predictive value of school teachers in detecting refractive errors in school" on September 25, 2013.

The Committee reviewed the following documents:

1. IRB application format
2. CV's of Drs. Madhiraju Nandanandan & Smitha Jasper.
3. Informed consent form for teachers (English & Tamil)
4. Questionnaire for teachers (English & Tamil)
5. Teacher's Data Sheet (English & Tamil)
6. Training Module
7. No of documents 1-6

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**OFFICE OF RESEARCH  
INSTITUTIONAL REVIEW BOARD (IRB)  
CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA.**

**Dr. B.J. Prashanthan, M.A., M.A., Dr. MIs (Clinical)**  
Director, Christian Counseling Center,  
Chairperson, Ethics Committee.

**Dr. Alfred Job Dasiel, D Ortho, MS Ortho, DNB Ortho**  
Chairperson, Research Committee & Principal

**Dr. Nihal Thomas,**  
MD., MNAMS., DNB (Endo), FRACP (Endo), FRCP (Glas) (EDIN)  
Deputy Chairperson  
Secretary, Ethics Committee, IRB  
Additional Vice Principal (Research)

The following Institutional Review Board (Research & Ethics Committee) members were present at the meeting held on September 25, 2013 at 9.45 am in the CREST/SACN Conference Room, Christian Medical College, Bagayam, Vellore 632002.

Name	Qualification	Designation	Other Affiliations
Dr. B. Poonkuzhali	MSC, PhD	Professor, Haematology, CMCH.	Internal, Basic Medical Scientist
Dr. Asha Mary Abraham	MBBS, MD, PhD	Professor, Virology, EMCH.	Internal, Clinician
Dr. Molly Jacob	MBBS, MD, PhD	Professor, Biochemistry, CMCH.	Internal, Clinician
Dr. B.S. Ramakrishna	MBBS, MD, DM, PhD, FACS, F.A.S.C. AGAP, FRCR	Retired Professor, Vellore	External, Clinician
Dr. Anuradha Bose	MBBS, DCH, MD, MRCP, FRCP (Ortho)	Professor, Child Health CMCH.	Internal, Clinician
Dr. Biju George	MBBS, MD, DM	Professor, Haematology, CMCH.	Internal, Clinician
Dr. Vinod Joseph Abraham	MBBS, MD, MPH	Professor, Community Medicine, CMCH.	Internal, Clinician
Prof. Keith Gomez	BSc, MA (S.W.), M. Phil (Psychiatry Social Work)	Student counselor, Loyola College, Chennai. Deputy Chairperson, Ethics Committee, IRB	External, Lay Person & Social Scientist
Mrs. Pattabiraman	B. Sc, DSSA	Social Worker, Vellore	External, Lay person
Mr. C. Sampath	B. Sc, BL	Legal Expert, Vellore	External, Legal Expert
Mrs. Selva Titus Chacko	M.Sc	Professor, Medical Surgical Nursing, CMCH.	Internal, Nurse

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**OFFICE OF RESEARCH  
INSTITUTIONAL REVIEW BOARD (IRB)  
CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA.**

**Dr. B.J. Prashanthan, M.A., M.A., Dr. Min (Clinical)**  
Director, Christian Counseling Center,  
Chairperson, Ethics Committee.

**Dr. Alfred Job Daniel, D Ortho, MS Ortho, DNB Ortho**  
Chairperson, Research Committee & Principal

**Dr. Nihal Thomas,**  
MD, MNAMS., DNB (Endo), FRACP (Endo), FRCP (Glas) (EDIN)  
Deputy Chairperson  
Secretary, Ethics Committee, IRB  
Additional Vice Principal (Research)

Dr. P. Zachariah	MBBS, PhD	Retired Professor, Vellore	External, Scientist
Rev. Dr. T. Arul Dhas	M.Sc, BD, DPC, PhD(Edin)	Chaplaincy Department, CMCH.	Internal, Social Scientist
Dr. Nihal Thomas	MD MNAMS DNB(Endo) FRACP(Endo) FRCP(Edin) FRCP (Glasg)	Secretary IRB (EC) & Dy. Chairperson (IRB), Professor of Endocrinology & Addl. Vice Principal (Research), CMC.	Internal, Clinician

We approve the project to be conducted as presented.

The Institutional Ethics Committee expects to be informed about the progress of the project, any **adverse events** occurring in the course of the project, any **amendments in the protocol and the patient information / informed consent**. On completion of the study you are expected to submit a copy of the **final report**. Respective forms can be downloaded from the following link: [http://www.cmcvellore.edu/Static/Research/IRB\\_Policies.html](http://www.cmcvellore.edu/Static/Research/IRB_Policies.html) in the CMC Intranet and in the CMC website link address: <http://www.cmcvellore.edu/Static/research/index.html>.

Administrative Committee's approval is to be obtained for opening the account-head, employing any personnel or purchasing any equipment. The investigator also needs to present to Administrative Committee, the terms and condition of the Funding agency for approval.

Yours sincerely

Dr. Nihal Thomas  
Secretary (Ethics Committee)  
Institutional Review Board

**Dr. NIHAL THOMAS**  
MD, MNAMS, DNB (Endo), FRACP (Endo), FRCP (Edin), FRCP (Glasg)  
SECRETARY (ETHICS COMMITTEE)  
Institutional Review Board,  
Christian Medical College, Vellore - 632 002.

CC: Dr. Smitha Jasper, Ophthalmology, CMC

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Appendix 2 - Permission letter from educational officer

வேலூர் நகர் குடிம 2 தனி தொழில் கல்வி அமைச்சர்  
அலுவலகம் செயல்பாடுகள்

முயற்சி: இ. அமைச்சர் கீழ்க் கீழ்க் M.A. & S.C. BED.

ப.வெ.எண் 2/13 நாள் - 5-11-13

பெயர்: டி.ஜி. சண்முகம் பரமசிவன் பரமசிவன் -  
பயிற்சி இயக்குநர் கீழ்க் கீழ்க் -

பார்வை; மாவட்ட தொழில் கல்வி அமைச்சர்  
வேலூர் அலுவலகம் ப.வெ.எண் -  
1/212/13 நாள் 05-11-13 தய

டி.ஜி. சண்முகம் பரமசிவன் பரமசிவன் பயிற்சி  
இயக்குநர் கீழ்க் கீழ்க் பரமசிவன் பரமசிவன்  
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பரமசிவன் கீழ்க்

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- 2) கீழ்க் கீழ்க் கீழ்க் கீழ்க்
- 3) கீழ்க் கீழ்க் கீழ்க் கீழ்க்
- 4) கீழ்க் கீழ்க் கீழ்க் கீழ்க்

2 கீழ்க் கீழ்க் கீழ்க் கீழ்க் கீழ்க் கீழ்க்  
கீழ்க் கீழ்க் - கீழ்க் கீழ்க்

## Appendix 3 - Consent form – English

### **Informed consent**

#### **School Screening for Refractive Errors – determining Sensitivity and Specificity of school teachers in detecting refractive errors in school children.**

**Study number:**

**Date:**

**Name of participant:**

**School name :**

I have been explained and I have been given the option of participating in a study in which I will be undergoing training on basics of eye anatomy and diseases which cause low vision and also to check visual acuity. I was informed that a questionnaire will be given before and after training which needs to be filled and given back. I will be requested to check visual acuity of the children in my class at school one week after this training. I have been told that i will be able to ask the investigators any questions I may have during the training. I understand that my participation in the study is voluntary and that I can leave the study at any given time.

I understand that the investigators and their team have the access to all the data that I provide them. I accept to share the data obtained during analysis in the faith that it will be used only for scientific purposes and my personal identity will not be revealed at anytime to anyone.

Understanding all the above, I give my consent for taking part in the above mentioned study.

**Teacher’s signature with date**

**Signature of the investigator with date**

**Christian Medical College, Vellore**  
**Department of Ophthalmology**

**School Screening for Refractive Errors – determining Sensitivity and Specificity of school teachers in detecting refractive errors in school children.**

**Information sheet**

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We are conducting a study to see if trained school teacher can be used as initial screener for detection of uncorrected refractive errors in school children by testing visual acuity. Teachers are important in any school screening program as they are in regular contact with children. Suggestions given by teacher gives a greater impact in minds of children. Many children with uncorrected refractive errors will have problems in day to day activity like looking at blackboard, frequent headache while reading, unable to participate in outdoor games due to poor vision. This will deteriorate child's performance and hamper his development academically and socially. Hence if child with visual impairment can be detected early and corrected, he/she will improve and this will also decrease dropouts from the school due to poor performance.

In largely populated country like India there are less than 25 ophthalmologists per million populations and this makes screening all school children in India for visual impairment an almost impossible task for ophthalmologist alone. If teachers can be used as initial screeners, they can detect children with visual impairment and refer them to the doctor for a more detailed evaluation.

We are planning to train all the teachers who teach classes 5<sup>th</sup> to 9<sup>th</sup> in that school. We will also provide teachers kit which will be useful for them in screening for visual impairment.

If you agree to participate in this study, you will be undergo one day training by a power point presentation on basic structure and functions of eye, common causes of childhood blindness/low vision, how to check visual acuity and you will be given hands on training for checking visual acuity at department of ophthalmology, CMC by an Ophthalmologist/Optomtrist. You will be given a questionnaire before and after training consisting of multiple choice questions which needs to be answered and returned back. The answer sheet can be given as anonymous without your name.

One week after the training you will be asked to check the visual acuity of your class children in your respective schools with teacher training kit which will be given at time of training. Results will be noted in the screening sheet given at time of training. Your participation in this study is entirely voluntary and you are also free to withdraw from participation in this study.

Once teachers are trained they can screen their class once a year and also monitor if the child is using spectacles prescribed to him/her regularly. This will improve overall performance of the class.

If the results of this study will be published in a medical journal, you will not be identified by name in any publication or presentation of results. However, your screening results and demographic data may be reviewed by people associated with the study, without your additional permission, should you decide to participate in this study.

**If you have any further questions, please ask ~~Dr.Madhiraju Nandanandan~~ (tel: 0416 2281201 /+919629229663) or email: ~~m.nandanandan@gmail.com~~**



## தகவல் ஒப்புதல் பிரதி ( Informed Consent)

பள்ளியில் படிக்கும் குழந்தைகளின் ஒளி விலகல் பிழைகளை கண்டறியும் ஆசிரியர்களின் உணர்வுதிறன் மற்றும், சரியாக (துள்ளியமாக) தீர்மானித்தலை கண்டறிதல்.

ஆய்வு எண் : தே  :

பங்கேற்பாளரின் பெயர் :

பள்ளியின் பெயர் :

கண்ணின் உடற்கறியல் மற்றும் பார்வை குறைபாடு காரணமாக ஏற்படும் நோய்கள் பற்றியும் பார்வை குறைபாட்டை எபிடி பாடவை கூர்மையை சரிபார்ப்பது பற்றிய பயிற்சிக்கு என்னுடைய விருப்பத்தின் பேரில் எனக்கு தெளிவாக விளக்கப்பட்டது. பயிற்சிக்கு முன்னும் பயிற்சிக்கு பின்னும் எனக்கு ஒரு கேள்விதாள் கொடுக்கப்பட்டு பூர்த்தி செய்து அதை திரும்ப கொடுக்கப்பட வேண்டும் என்று அறிவிக்கப்பட்டிருந்தது.

ஒரு வார பயிற்சிக்குப் பிறகு நான் என் வகுப்பில் பயிலும் குழந்தைகளும் பார்வை கோளாறு (குறைபாடு) குறித்து ஆய்வு செய்ய வேண்டும் என்றும், அப்போது ஒரு வேளை எனக்கு சந்தேகங்கள் இருப்பின் அதை ஆய்வாளரிடம் கேட்டு அறிந்து கொள்ளலாம் என்றும் அறிவேன். இந்த ஆய்வில் என்னுடைய விருப்பத்தின் பேரில் பங்கேற்கிறேன் என்றும் எந்த நேரத்திலும் நிபந்தனையின்றி விலகிக் கொள்ளலாம் என்றும் அறிவேன். இந்த ஆய்வின் மூலம் என்னால் பெறப்பட்ட விவரங்களை ஆய்வாளரும் அவருடைய அணி உறுப்பினர்களும் பெற்றுக் கொள்ளலாம். இதை அவர்கள் அறிவியல் நோக்கங்களுக்காக மட்டுமே பயன்படுத்துவார்கள். மேலும் இந்த ஆய்வினால் என்னைக் குறித்த விவரங்களை யாருக்கும் தெரிவிக்கப் படமாட்டாது என்றும் அறிந்திருக்கிறேன். எனவே நான் ஆய்வில் பங்குபெற முழுமனதுடன் சம்மதிக்கிறேன்.

ஆரி  / ஆரி யை கையொப்பம் / தே

ஆய்வாளர் கையொப்பம் / தேதி

## கிருஸ்தவ மருத்துவ கல்லூரி

### கண் மருமீதுவ துறை

பள்ளியில் படிக்கும் குழந்தைகளின் ஒளி விலகல் பிழைகளை கண்டறியும் ஆசிரியர்களின் உணர்வுதிறன் மற்றும், சரியாக (துள்ளியமாக) தீர்மானித்தலை கண்டறிதல்.

#### தகவல் ஒப்புதல் பிரதி ( Information sheet)

சரியில்லாத ஒளிவிலகல் பிழைகளை ஆசிரியர்களுக்கு பயிற்சி கொடுத்து முதன்மை ஆய்வாளராக அவர்களுக்கு பார்வையை கூர்மை பெற இந்த ஆய்வை மேற்கொள்கிறோம். இப்படிப்பட்ட ஆய்வுகளை மேற்கொள்ளும் போது ஆசிரியரின் நேரடி பார்வையில் பிள்ளைகள் இருப்பதால் ஆசிரியர்கள் முக்கியமானவர்களாக இருக்கின்றனர். குழந்தைகளுக்கு ஆசிரியர்கள் கொடுக்கும் ஆலோசனைகள் அவர்கள் மனதில் ஒரு பெரிய தாக்கத்தை கொடுக்கும் பல குழந்தைக்கு சரி செய்யப்படாத பார்வை குறைபாடுகள் இருக்கும் பட்சத்தில் கருப்பு போட்டில் உள்ள எழுத்துக்களை சரிவர பார்க்க முடியாது படிக்கும் போது அடிக்கடி ஏற்படும் தலைவலிகள், பார்வை குறைவாக இருப்பதால் வெளியில் சென்று விளையாட முடியாது. எனவே குழந்தைகளின் ஈடுபாடு குறைந்து அவர்களது கல்வியியல் மற்றும் சமூகத்தில் இடையூறு அடிக் குடி

இப்படிப்பட்ட பார்வை கோளாறுகளை முதலிலேயே கண்டறியும் போது அவர்களுடைய பள்ளி வாழ்க்கையில் மோசமான செயல்பாடுகளில் இருந்து சரி செய்து மேம்பட்ட நிலைகளில் இருக்க வாய்ப்பு உண்டு.

மக்கள் தொகை பெருக்கம், உள்ள நாடுகளில் ஒன்றான இந்தியாவில் ஒரு மில்லியன் மக்களுக்கு 25க்கும்ஐ குறைவான கண் மருத்துவர்கள் இருப்பதால் இந்திய பள்ளிகளில் உள்ள குழந்தைகளின் பார்வை குறைபாடு சம்மந்தப்பட்ட பிரச்சனைகளை பகுப்பாய்வு செய்வது கண் மருத்துவர்களால் முடியாத காரியம். எனவே, ஆசிரியர்களை முதன்மை ஆய்வாளராக பயன்படுத்தி பார்வை கோளாறு குழந்தைக பார்வை கோளாறை சரி செய்யும் திறம்பட்ட கண் சிகிச்சையாளர்களை அணுகலாம். எனவே 5ம் வகுப்பிலிருந்து 9ம்

வகுப்பு வரை பாடம் எடுக்கும் ஆசிரியர்களுக்கு பயிற்சி கொடுத்து ஆசிரியர் பயிற்சி கருவி கொடுக்கப்பட்டு பிள்ளைகளுக்கு பார்வை கோளாறை சரி செய்ய போதுமானதாக இருக்கும்.

நீங்கள் இந்த ஆய்வில் பங்கு பெறும்பட்சத்தில் உங்களுக்கு ஒரு நாள் பயிற்சியை பவர் பாயிண்ட் மூலம் கண்ணின் அடிப்படை செயல்பாடு மற்றும் கட்டமைப்புகள், பொதுவாக ஏற்படும் பார்வை குறைபாடுகள், மற்றும் குருட்டு பார்வை உடைய குழந்தைகளின் பார்வை கூர்மை பெற சோதனை, மற்றும் எபிடி சோதனை செய்வது என்பதை வேலூர் சி.எம்.சி. கண் மருத்துவ மனையின் கண் மருத்துவர் / பரிசோதகர் மூலம் செய்து மாதிரி காண்பிக்கப்படும்.

எனவே உங்களுக்கு பயிற்சிக்கு முன்னும் பயிற்சிக்கு பின்னும் கேள்வித் தாள்கள் கொடுக்கப்பட்டு அதை பூர்த்தி செய்து உங்கள் பெயரிடப்படாமல் திருப்பி கொடுக்கப்பட வேண்டும்.

பயிற்சி கொடுக்கப்பட்ட ஒரு வாரத்திற்கு பிறகு ஆசிரியர்களுக்கு பயிற்சி காலத்தில் கொடுக்கப்பட்ட பயிற்சி சாதனத்தைக் கொண்டு குழந்தைகளுக்கு பார்வை கோளாறை எப்படி பார்வை கூர்மை பெற செய்யு சோதனையை செய்து அதை பயிற்சி நாட்களில் கொடுக்கப்பட்ட ஸ்கீரினிங் தாளில் பதிவிறக்கம் செய்ய வேண்டும். இந்த ஆய்வில் பங்கேற்பது என்பது தன்னுடைய விருப்பத்தின் பேரில் தான் என்றும் எந்த நேரத்திலும் நிபந்தனையின்றி விலகிக் கொள்ளலாம்.

பயிற்சி பெற்ற ஆசிரியர்களின் வகுப்பில் பார்வை கோளாறு காரணாக கண்ணாடி அணிந்திருந்தால் தொடர்ந்து போடுகிறார்களா என்று பார்க்க வேண்டும். இதனால் வகுப்பு முழுவதும் நல்ல முன்னேற்றம் காணலாம்

இந்த முடிவுகள் மருத்துவச இடத்தில் வெளியிடப்படும். அதனால் உங்களுடைய அடையாளம் எந்தவிதத்திலும் பாதிக்காது. இந்த ஆய்வில் பெறப்பட்ட விவரங்கள் உங்களுடைய அனுமதியின்றி பரிசீலனை செய்யப்படும். எனவே நீங்கள் பங்கு பெற வேண்டும் என்று கேட்டுக் கொள்கிறேன்.

**மேற்கொண்டு விவரங்கள் பெற டாக்டர் மதிராஜி நந்தநந்தன் அவர்களை 0416-2281201 / 919629229663 என்ற எண்ணிற்கு தொடர்பு கொள்ளவும்.**

## Appendix 4 - Teacher's data Proforma - English

### DATA SHEET

- 1) Serial number =
- 2) Age =
- 3) Gender = male/female
- 4) Graduate qualification = BA / BSc
- 5) Post graduate qualification = MA / MSc
- 6) Teaching qualification = BEd / MEd
- 7) Years of teaching experience =
- 8) Subject taught at school = Science / Other subject ( If more than one subject then main subject you are qualified in )
- 9) Type of school = Government school / Govt Aided
- 10) Using glasses for distant vision? = Yes / No.
- 11) Have you undergone previous training for screening refractive error in children before?  
=Yes/No.
- 12) Have you screened for visual impairment before = Yes / No.

Teacher's data proforma - Tamil

விவரத்தாள்

- 1) தொடர்பு எண் :
- 2) வயது :
- 3) இனம் : ஆண் / பெண்
- 4) இளம்மை பட்டதாபிதகு B.A., B.Sc., :
- 5) முதுமை பட்டதாபிதகு M.A., M.Sc., :
- 6) ஆசிரியர் பயிற்சி தகுதி B.Ed., M.Ed., :
- 7) கற்பித்தலின் அனுபவம் ஆண்டுகளில் :
- 8) பள்ளியில் எந்த பாடம் எடுக்கிறீர்கள் :  
(அறிவியல் / பிறபாடங்கள் (ஒன்றுக்கு மேற்பட்ட பாடம் என்றால் எந்த பாடத்தில் தகுதி பெற்றிருக்கிறீர்கள்)
- 9) பள்ளி எந்த வகை : அரசு பள்ளி / அரசு உதவி
- 10) தொலைபேசி பாடகருக்கு கண்ணாடி பயன்படுத்துகிறீர்களா ? : ஆம் / இல்லை
- 11) நீங்கள் இதற்கு முன் எப்போதாவது : ஆம் / இல்லை  
குழந்தைகளின் ஒளி விலகல் பிழையை சோதனை செய்ய பயிற்சி பெற்று இருக்கிறீர்களா ?
- 12) நீங்கள் இதற்கு முன் பார்வை கோளாறு : ஆம் / இல்லை  
சோதனை செய்திருக்கிறீர்களா ?

## Appendix 5 - Questionnaire English

### QUESTIONNAIRE FOR TEACHERS

- 1) Do all children with headache need spectacles
  - a) Yes
  - b) No
  - c) May be
  
- 2) How do you check for visual impairment
  - a) One eye at a time with other eye closed with opaque object
  - b) Both eyes open
  - c) One eye at a time with other eye closed with closed fingers
  
- 3) What of the following is the commonest causes of visual impairment in children
  - a) Cataract
  - b) Refractive errors (sight problem)
  - c) Corneal scar
  
- 4) Distant visual acuity is tested at
  - a) 6 meters
  - b) 25 cms
  - c) At any distance
  
- 5) How do you know child has visual impairment
  - a) He squeezes his eyes while looking at black board
  - b) He copies notes from the student beside him instead of copying from blackboard
  - c) Both A and B
  
- 6) Do you encourage children to wear glasses regularly?
  - a) Yes
  - b) No
  
- 7) If you find child with vision problem
  - a) Advice him to get glasses from optical shop
  - b) Advice parents to take their child to an ophthalmologist
  - c) Advice parents to give their child healthy food.

## Questionnaire Tamil

### ஆசிரியர் கேள்விகள்

1. தலைவலியால் பாதிக்கப்பட்ட எல்ல குழந்தைகளும் கண்ணாடி அணிய / போட வேண்டுமா ?
  1. ஆ
  2. இல்லை
  3. ரு கலா
2. கண்ணில் பார்வை கோளாறு இருப்பின் எப்படி சோதனை செய்ய முடியும்
  - a) ஒரு கண் திறந்திருக்க மற்ற கண் மறைக்கப்பட்டிருக்க வேண்டும்.
  - b) ரண்டு கண்களு  றக்து ரு க வேண்டு
  - c) ஒரு கண் திறந்திருக்க மற்ற கண் கைவிரல்களால் மூடப்பட்டிருக்க வேண்டும்.
3. கீழே கொடுப்பட்டுள்ளவற்றுள் எவை பார்வை கோளாறுக்கு பொதுவான காரணங்களாக ரு கு 
  - 1) கண் ரை
  - 2) பார்வை பிரச்சனை (ஒளி விலகல் பிழைகள்)
  - 3) கரு   வடு
4. தொலை பார்வை கோளாறுகள் எவ்வளவு தூரத்தில் சோதனை செய்யப்படுகிறது ?
  - 1) 6
  - 2) 25 சென்டிமீட்டர்
  - 3) எந்த தூரத்தில் வேண்டுமானாலும்
5. குழந்தைகளுக்கு பார்வை கோளாறு இருப்பதை எப்படி அறிவீர்கள் ?
  - a) கரு   போ டை (பலகை) பா  கு  போது தனது கண்களை கச   (றக்து மூடி) பார்ப்பதினால்
  - b) கருப்பு போ டை (பலகை) பார்த்து எழுதுவதற்கு பதிலாக அருகில் இருக்கும் மாணவனின் நோட்டு புத்தகத்தை பார்த்து எழுதுவதினால்
  - c) a ள  b ழ
6. உங்கள் குழந்தை தொடர்ந்து கண்ணாடி அணிவதை அறிவுறுத்தப்படுவீர்களா ?
  1. ஆ
  2. இல்லை
7. உங்கள் குழந்தைக்கு பார்வையில் பிரச்சனை இருப்பதை அறிந்தால்
  - a) கண்ணாடி கடைக்கு சென்று கண்ணாடி பெற அறிவுறுத்துவீர்களா
  - b) பெற்றோரை அழைத்து கண் மருத்துவரை காணுமாறு அறிவுறுத்துவீர்களா
  - c) பெற்றோரை அழைத்து குழந்தைகளுக்கு சத்தான உணவு கொடுக்க அ  றியீது  களா ?

**Appendix 6 - Child assent form and information sheet – English**

**Assent form for the child**

**School Screening for Refractive Errors – determining Sensitivity and Specificity of school teachers in detecting refractive errors in school children**

For you to be able to have your eye check up in school itself, we are going to train your teachers to be able to check your vision in simple way and be able to identify quickly whether you need to go for further check up or not. We need your help by you allowing the Optometrist from the department of Ophthalmology CMC to check your vision in the school. To indicate your willingness to be part of this training process for your teachers, please tick against the box and write your name in the column provided -

Name of student -

Willing for screening - Yes/No

Signature of student -



# Information Sheet

## **School Screening for Refractive Errors – determining Sensitivity and Specificity of school teachers in detecting refractive errors in school children**

Dear

The eyes are the part of you which allow you to see the world around you. You use your vision to be able to read, write and learn, and for all activities like watching TV, playing games, wearing clothes, etc. If what we see is not clear we may miss out on many things that others enjoy that you are not able to because you cannot see as well as they do.

In school, the people you spend most time with is your friends and your teachers. If you cannot see the board clearly, you make mistakes while you read, write and learn causing the teacher to get upset with you, mistakes in your tests and sometimes your friends making fun of you. This makes many people sad and not want to learn or come to school which is not a good thing.

Going to a doctor is a scary option for many of you because of past memories of injections and horrible tasting medicines that they give you when you are not well.

In today's world, 12.81 million (0.97%) children cannot see only because they don't have spectacles to see. This is mainly because children don't want to go to a doctor, there are not enough doctors and for some they don't have money to go to the doctor for a simple eye check up.

To prevent one encounter with your doctor we would like to train your teacher to be able to check your vision in the school itself so that you are in a familiar environment and it's like going to the doctor with all your friends and to someone who you see every day and is not so scary.

We hope that every year you can all have your eye check up in school by your teacher and if any of you are not able to see the teacher will help you in finding a doctor who can help you and get you to see better.

## குழந்தைகள் ஒப்புதல் படிவம்

பள்ளியில் படிக்கும் குழந்தைகளின் ஒளி விலகல் பிழைகளை கண்டறியும் ஆசிரியர்களின் உணர்வுதிறன் மற்றும், சரியாக (குள்ளியமாக) தீர்மானித்தலை கண்டறிதல்.

நீங்கள் படிக்கும் பள்ளியிலேயே உங்கள் கண்களை பரிசோதிக்க நாங்கள் உங்களுடைய ஆசிரியர் / ஆசிரியைகளுக்கு பயிற்சி கொடுத்து களி்  எய முறையில் பரிசோதித்து, மேற்கொண்டு உத்களுகு ரிச்சை பெற வேண்டுமா? இல்லையா? என்று அறிய முடியும். எனவே நீங்கள் எங்களுக்கு உதவும் பட்சத்தில் வேலூரில் உள்ள சி.ம.சி. கண் மருத்துவ மனையில் உள்ள கண் பரிசோதகர் உங்கள் பார்வையின் அளவை பரிசோதிப்பார்கள். உங்களின் விருப்பம் உங்கள் ஆசிரியர்களின் பயிற்சி நடவடிக்கையின் ஒரு பகுதியாக இருக்க வேண்டும் என்றால் கட்டத்தில் குறியிட்டு கொடுக்கப்பட்ட இடத்தில் உங்களுடைய பெயரை எழுத வேண்டு

மாணவ / மாணவியரின் பெயர் :

பத்கு பெற  ருய : ஆம் / இல்லை

மாணவ / மாணவியரின் கையொப்பம் :

## தகவல் பிரதி

பள்ளியில் படிக்கும் குழந்தைகளின் ஒளி விலகல் பிழைகளை கண்டறியும் ஆசிரியர்களின் உணர்வுதிறன் மற்றும், சரியாக (குள்ளியமாக) தீர்மானித்தலை கண்டறிதல்.

அன்பான .....

உங்கள் கண்களால் தான் இந்த உலகத்தையும் அதை சுற்றியுள்ள காரியங்களை பார்க்க முடிந்தது. உங்களின் பார்வைக் கொண்டு தான் நீங்கள் படிக்க, எழுத, கற்றுக் கொள்ள, தொலைக்காட்சியை பார்க்க, விளையாட துணிகள் அணிந்து கொள்ள என அநேக நடவடிக்கைகள் உண்டு. உங்களின் பார்வை குறைவாக இருக்கும் பட்சத்தில் மற்றவர்கள் அனுபவிக்கும் பல காரியங்களை நம்மால் அனுபவிக்க முடியாது.

பள்ளியில் நீங்கள் அதிக நேரத்தை ஆசிரியர்கள் மற்றும் சக மாணவர்களிடம் தான் செலவிடுகிறீர்கள். அப்படி இருக்கும் போது உங்களின் பார்வை குறைபாட்டினால் கரும் பலகையை பார்த்து எழுத, படிக்க மற்றும் கற்றுக் கொள்ள முடியாத பட்சத்தில் உங்களைக் குறித்து ஆசிரியர்கள் மன வேதனை அடையக்கூடும். சோதனை தாளில் நீங்கள் செய்யும் தவறினை உங்கள் நண்பர்களை கேலி செய்யக்கூடும். எனவே இந்தநிலையில் உள்ள மாணவர்கள் மனம் வருந்துவதும், பள்ளிக்கு சென்று பயில விரும்புவது இல்லை. ஆனால் இது நல்ல விஷயம் அல்ல.

மருத்துவமனைக்கு செல்வது என்பது சிலருக்கு பயத்தை தோற்றுவிக்கும். ஏனென்றால் எப்போதோ ஏற்பட்ட வியாதிக்கு ஊசியை பயன்படுத்தியதாலும் மேலும் சில சோதனையில் வெறுப்பான / அச்சமுட்டுகிற அனுபவத்தை பெற்றிருப்பார்கள்.

இன்றைய உலகில் 12.81 மில்லியன்(0.97%) குழந்தைகள் கண்ணாடி அணியாததால் சரியாக பார்க்க முடிவதில்லை. குழந்தைகள் மருத்துவரிடம் செல்ல விரும்புவதில்லை என்பது தான் முதன்மையான காரணம். அதே நேரத்தில் கண் மருத்துவர்களும் குறைவு,

கண்ணை எளிய பரிசோதனை செய்து கொள்வதற்கு தேவையான பணம் சிலரிடம் இல்லை.

இந்த சூழலில் மருத்துவரிடம் செல்வதை தடுக்க உங்கள் பள்ளியில் உங்களோடு நன்கு பழகிய வகுப்பு ஆசிரியர் / ஆசிரியைகளுக்கு பயிற்சி கொடுத்து குடும்ப சூழலில் பரிசோதனை செய்வது என்பது நண்பர்களோடு மருத்துவரை சென்று பார்க்கும் போது ஒவ்வொருவருக்கும் ஏற்படும் பயத்தை இது தவிர்க்கும்.

ஒவ்வொரு ஆண்டும் உங்களுக்கு கண் பரிசோதனையை வகுப்பாசிரியர்களே மேற்கொள்வார்கள். அப்பொழுது உங்களின் பார்வையில் குறைபாடு இருப்பின் மருத்துவர் மூலம் உங்களுக்கு கண் பார்வையில் உள்ள குறைபாட்டை நீக்க முயற்சி செய்வார்கள்.



**Appendix 8 - Optometrist data collection sheet**

**RECORD SHEET**

*Date of screening:*

*Name of the school:*

*Class & section:*

*Name of the Optometrist:*

<i>Serial no</i>	<i>Name</i>	<i>Age</i>	<i>Right eye Visual acuity</i>	<i>Left eye Visual acuity</i>	<i>Is using glasses (y/n)</i>

**Appendix 9 - Photos**



**Teacher training conducted at department of Ophthalmology, CMC, Vellore**



**Teacher Kit containing - Teacher E card, 6 meter rope, occlude and file with record sheet and training material**





**School children were screened by their teachers at their respective school.**

date of sci	name of school	class	name of o	name of stu	age of stu	gender	visual a	visual	using	Name of teacher	right eye s	left eye st	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	M Reshma	11	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	M shakila	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Dowlath	10	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Mubeen siddique	10	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	shazia	10	female	6/6.	6/6p.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	aseena	10	female	6/6.	6/18.	6/9.	no	K Mubeen	Can't see	Can't see
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	afiya	10	female	6/9.	6/6p.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	shafiya	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	fouzia	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	parveen	11	female	6/6.	6/9.	no	K Mubeen	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	afreen	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	H.Mubeen	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Mubeena	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	hajira k	10	female	6/6.	6/6.	no	K Mubeen	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	samina J	11	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	shabana M	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Shaheen	10	female	6/6p.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Shajida	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	Shafiya	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	fathima	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	asma	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th A	5th A	Jasima	mushra	10	female	6/9.	6/9.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Ahad	10	male	6/9.	6/9.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	shabaz	10	male	6/6.	6/9.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	rayeaz	10	male	6/9.	6/9.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Mohd Nasir	10	male	6/12.	6/12.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Thoufeq	10	male	6/6.	6/18.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Mohd ali	10	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Shahinsha	11	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Mohd umar	11	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	ayub	11	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	Noor Mohd	10	male	6/18p.	6/36.	no	K Mubeen	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	suhail	10	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	m hamed	10	male	6/6p.	6/9.	no	K Mubeen	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	u ahmed	10	male	6/9p.	6/6p.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	salma shareef	10	female	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	zubain ahmed	11	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	thala shareif	11	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 5th B	5th B	Jasima	umar farooq	10	male	6/6.	6/6.	no	K Mubeen	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	sahira	11	female	6/12.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	shabeena	12	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	tasleem	11	female	6/6p.	6/6p.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	sherun	11	female	6/6p.	6/12.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	nafeesa	11	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	ayesha	13	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	fathima patee	11	female	6/24.	6/36.	no	fathimunisa	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	s gulanz	12	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	m chand	11	female	6/12.	6/12.	no	fathimunisa	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	h reshma	12	female	6/6.	6/9.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	s zahida	11	female	6/24.	6/24.	no	fathimunisa	Can't see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	s.nafeesa	11	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	nasreen sultha	12	female	6/6.	6/24.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	aqsa qamar	11	female	6/6.	6/9.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	tasleem	11	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	yesumai	11	female	6/9.	6/9.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	sabreen	11	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	jitabhanu	11	female	6/9.	6/9p.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	samra faathim	12	female	6/6.	6/6.	no	fathimunisa	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 6th A	6th A	Jasima	sharmeela	11	female	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	isnail	11	male	6/6.	6/6p.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	h mubarak	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	syed Wali	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	j mubarak	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	ameen	11	male	6/6.	6/12.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	fairoz	13	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	hamid	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	mustak	12	male	6/6.	6/6.	no	fathimunisa	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	tubraz	11	male	6/9.	6/12.	no	fathimunisa	Can't see	Can't see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	abdul kalam	12	male	6/9.	6/9.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	mutasir	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	sujaid	12	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	aasam	11	male	6/24.	6/6.	no	fathimunisa	Can't see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	Md shariq	12	male	6/9.	6/12.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	ayaz	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	chan basha	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	ayath basha	12	male	6/6.	6/12.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	Md althamas	12	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	tanvir a	12	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	ishanth	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	u khizar	11	male	6/6p.	6/9.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	Md assif	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	Md ayub	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	musthafa	11	male	6/6.	6/6.	no	fathimunisa	Can see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	k asif	11	male	6/6.	6/9.	no	fathimunisa	Can't see	Can see	
21/11/13	Govt Muslim middle sch 6th B	6th B	Jasima	abdul razzak	11	male	6/12.	6/12.	no	fathimunisa	Can see	Can't see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	sumiya bhanu	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	maimoonisa	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	nazia banu	12	female	6/9.	6/9.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	busshra thabb	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	ayeesha thaba	12	female	6/9.	6/9.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	nazira	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	humera kowse	12	female	6/9.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	nahida anjum	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	thaseen	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	fathima habee	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	ringser firdose	12	female	6/6p.	6/6.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	thafreen bhan	12	female	6/6.	6/6p.	no	parreen akther	Can see	Can see	
21/11/13	Govt Muslim middle sch 7th A	7th A	Ringser	l thabassum	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see	

## Appendix 10 - Excel data spread sheet – Children

21/11/13	Govt Muslim middle sch	7th A	Ringser	shahanum	13	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	hina	13	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	rabuya basri	13	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	fouzia bgum	12	female	6/6.	6/6.	no	parreen akther	Can see	Can't see
21/11/13	Govt Muslim middle sch	7th A	Ringser	Basreen	12	female	6/9.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	sufiya	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	mohzzina	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th A	Ringser	yasmeen	12	female	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	muzamil	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	faizzuddin	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	nadeem	12	male	6/6.	6/9.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	sadique	12	male	6/9.	6/9.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	asheaf	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	rafiddin	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	yaseer	12	male	6/9.	6/9.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	altaf	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	shafique	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	nawaz khan	13	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	zakir hussain	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	mohd fuzail	13	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	munna	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	muniber rehm	12	male	6/6.	6/6.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	zubair rehman	12	male	6/9.	6/9.	no	parreen akther	Can see	Can see
21/11/13	Govt Muslim middle sch	7th B	Ringser	jaffar	13	male	6/6.	6/9.	no	parreen akther	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	hamid	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	safiullah	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	shahul hamid	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	siddiq	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	shahul	12	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	niha	12	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	riyaz	13	male	6/18p.	6/12.	yes	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	yaseen	12	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	F Md abutalha	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	salman	14	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	h nasood	14	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	md haroon	14	male	6/12.	6/9.	no	K Mubeen	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	z sheik	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	j abdul	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	naseera begum	13	female	6/9.	6/9.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	s mahaboob bi	13	female	6/12.	6/18.	no	K Mubeen	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	a ayesha bhanu	13	female	6/9.	6/18.	no	K Mubeen	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	g aliya bhanu	13	female	6/18.	6/18.	no	K Mubeen	Can't see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	h salma	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	nuzrath basree	13	female	6/6.	6/6.	yes	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th A	Ringser	tashmiyah bha	13	female	6/9.	6/18.	no	K Mubeen	Can't see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	hina	13	female	6/18.	6/18.	no	K Mubeen	Can't see	Can't see
21/11/13	Govt Muslim middle sch	8th A	Ringser	ayesha siddiqu	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	c sahira	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	afreen	13	female	6/24.	6/18.	no	K Mubeen	Can't see	Can't see
21/11/13	Govt Muslim middle sch	8th B	Ringser	arifa	13	female	6/9.	6/6.	no	K Mubeen	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th B	Ringser	fathima	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	parveen	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	thaseema	14	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	hajira m	13	female	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	ayehsa i	13	female	6/6.	6/9.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	khathija i	14	female	6/9.	6/9.	no	K Mubeen	Can see	Can't see
21/11/13	Govt Muslim middle sch	8th B	Ringser	amreen	13	female	6/9.	6/9.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	r abbas	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	zabeer	13	male	6/24.	6/18.	no	K Mubeen	Can't see	Can't see
21/11/13	Govt Muslim middle sch	8th B	Ringser	allaudin	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	a jaffar	13	male	6/9.	6/9.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	n allaudin	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	h hazi	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	ashraf h	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	a asif	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	m musthafa	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	s abdul	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt Muslim middle sch	8th B	Ringser	n basir	13	male	6/6.	6/6.	no	K Mubeen	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	prakash	10	male	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	bobalan	10	male	6/9.	6/9.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	muzabil	10	male	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	shebeen	11	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	sanjay	10	male	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	lakshmi b	10	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	jothi s	10	female	6/9.	6/9.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	saran	10	male	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	s.sufiya	10	female	6/6p.	6/9.	no	mageshwari	Can see	Can't see
21/11/13	Govt middle school Aml	5th	sowmya	siddiqua	11	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	kaviya	10	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	madhumitha	10	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	5th	sowmya	shalini	10	female	6/6.	6/6.	no	mageshwari	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	thirumalai	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	kavilan	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	sanjay s	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	gandhi r	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	ajay v	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	sakthivel	12	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	manimaran	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	hussain k	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	chandru	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	povarasu	11	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	madesh	11	male	6/9.	6/9.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	idrish	12	male	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	kulab sha	11	female	6/9.	6/9.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	j sneha	11	female	6/18.	6/18.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	bhuvaneshwar	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	abinaya	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	aishwarya	11	female	6/9.	6/9.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	santhiya	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml	6th	sowmya	rajeshwari	13	female	6/6.	6/6.	no	lavanya	Can see	Can see



21/11/13	Govt middle school Aml 6th	sowmya	yasmeen	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	fathima	11	female	6/9.	6/9.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	zainab	12	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	nasreen	11	female	6/6.	6/9.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	snega k	11	female	6/60.	6/36p.	no	lavanya	Can't see	Can't see
21/11/13	Govt middle school Aml 6th	sowmya	shakira	11	female	6/9.	6/18.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	bharathi	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 6th	sowmya	manimeghalai	11	female	6/6.	6/6.	no	lavanya	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	sanjay b	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	sakthivel	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	poviarasan	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	mueson	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	sanjay	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	nadeem	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	senthil	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	sanjay	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	salman	12	male	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	nawaz	12	male	6/6p.	6/9.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	charulatha	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	nasreen	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	juvairiya	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	noorjahan	12	female	6/24.	6/60.	no	sulamani	Can see	Can't see
21/11/13	Govt middle school Aml 7th	jasima	nandhini	12	female	6/6p.	6/6.	yes	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	narmada	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	gayathri	12	female	6/9.	6/9.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	niha i	12	female	6/36.	6/36.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	afreen	12	female	6/9.	6/9.	no	sulamani	Can't see	Can't see
21/11/13	Govt middle school Aml 7th	jasima	kokila	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	s nasreen	12	female	6/9.	6/9.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	salma	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	kalpana	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 7th	jasima	chandru	12	female	6/6.	6/6.	no	sulamani	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	shabreen	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	girija	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	sangeetha	13	female	6/9.	6/12.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	sneha	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	vijayalakshmi	14	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	sandhya	13	female	6/36p.	6/60.	no	Komathi	Can't see	Can't see
21/11/13	Govt middle school Aml 8th	jasima	reshma	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	priyadarshini	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	keerthana	13	female	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	deepalakshmi	13	female	6/24.	6/24.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	satish	13	male	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	yusuf	12	male	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	nagaraj	13	male	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	karthik	13	male	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	asad	13	male	6/9.	6/9.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	adam	13	male	6/6.	6/6.	no	Komathi	Can see	Can see
21/11/13	Govt middle school Aml 8th	jasima	gopinath	13	male	6/6.	6/6.	no	Komathi	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	suji	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	swathi	10	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	sandhya	9	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	sowmya	9	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	narmadha	113	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	archana	11	female	6/6.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	sunil	10	male	6/9.	6/12.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	lokesh kumar	9	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	silambarasan	10	male	6/9.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	kamesh	9	male	6/9.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	saran	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	vijay kumar	10	male	6/6.	6/12.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	dhanush	10	male	6/12.	6/12.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	yokeshwaran	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	gopi	10	male	6/12.	6/6.	no	gounder samy	Can't see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	vallarasu	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	dinesh	10	male	6/6.	6/6.	no	gounder samy	Can see	Can't see
22/11/13	RCM Utthira Madha 5th A	mahiba	arjun	10	male	6/9.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	nagaraj	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	ajay	10	male	6/6.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	santosh	11	male	6/18.	6/24.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	edward	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	hariharan	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th A	mahiba	monish	12	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	Dinesh	10	male	6/6.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	hemanth	10	male	6/9.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	raja	11	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	pavan	11	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	manikandan	10	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	j madhan kum	10	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	tamil selvan	11	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	saaran	10	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	appu m	10	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	siva rishi	9	male	6/12.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	santosh	10	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	a yakub	11	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	irfan	11	male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	monisha	10	female	6/6.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	tamilarasi a	9	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	v ramy a	11	female	6/6.	6/6p.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	ashwini	11	female	6/9.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	narmada	10	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	n tamil arasu	10	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	ashika	10	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	janani	10	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 5th B	Nandanar	vasanth	10	female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha 6th A	mahiba	sylvia	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 6th A	mahiba	abhinaya	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 6th A	mahiba	selva rani	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 6th A	mahiba	nithya sree	12	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha 6th A	mahiba	krithika	12	female	6/6.	6/6.	no	gounder samy	Can see	Can see

22/11/13	RCM Utthira Madha	6th A	mahiba	subhashini	10	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	sarumathi	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	vinothini	11	female	6/12.	6/12.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	anasuya	11	female	6/9.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	jothika	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	anbarasi	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	hema malini	11	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	sneeha s	12	female	6/9.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	pavithra	12	female	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	danush m	10	male	6/6.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	sridhar	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	janarthanan	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	prince	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	stephen raj	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	prakash raj	12	male	6/9.	6/18.	no	gounder samy	Can see	Can't see
22/11/13	RCM Utthira Madha	6th A	mahiba	dilip raj	10	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	vasanth	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	dinesh v	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	ajay	11	male	6/12.	6/12.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	srinivasan	11	male	6/9.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	daniel	12	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	gowthaman	12	male	6/9.	6/9.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6th A	mahiba	siibi v	11	male	6/6.	6/6.	no	gounder samy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	Ebenezer	12	male	6/24.	6/24.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	k santosh	11	male	6/9.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	m nitish kuma	11	male	6/9.	6/12.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	r perumal	11	male	6/9.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	b sanjay veera	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	s prabakaran	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	r vishwa	12	male	6/9.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	v naveen kum	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	c sanjay kumar	11	male	6/9.	6/12.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	v harish	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	akash	11	male	6/6.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	p praveen kum	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	E mahalakshmi	12	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	deepa lakshmi	12	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	sri vidhya	10	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	sindhu	11	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	charumatha	11	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	selva priya	11	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	k anusiya	11	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	jaya kodi	11	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	6h B	Nandanar	anasuya	10	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	guru k	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	issaq d	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	jai surya	12	male	6/6.	6/6.	no	mary leema	Can see	Can't see
22/11/13	RCM Utthira Madha	7th A	logapriya	r prabhu	12	male	6/9.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	prasanth	11	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	rahal	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	surya n	13	male	6/9.	6/9.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	surya v	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	vasanth lv	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	v selva kumar	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	v vasudevan	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	vetriselvan	11	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	vijayakanth	12	male	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	j aishwarya	12	female	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	jaya keerthi	12	female	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	nalini r	12	female	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	pavithra s	11	female	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	sharmila m	12	female	6/24.	6/9.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th A	logapriya	swathi s	11	female	6/6.	6/6.	no	mary leema	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	dileep kumar	13	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	santosh kumar	12	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	deeraj	13	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	vikram	12	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	jayanathan	12	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	kalki d	11	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	s vigneeesh	12	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	r sanjay	12	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	r avinash	13	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	p abraham	13	male	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	sowmya	12	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	vasumathi	12	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	alamelu	12	female	6/6.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	swarnalatha	10	female	6/9.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	shalini	12	female	6/6.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	devayani	11	female	6/9p.	6/9p.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	s renuga	12	female	6/12.	6/12.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	s nithya sri	11	female	6/9.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	j siva ranjani	12	female	6/9.	6/6.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	7th B	logapriya	s ammu	11	female	6/9.	6/9.	no	helen gracy	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	tamil illakia	12	female	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	rithika	12	female	6/9.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	priyan kumari	14	female	6/18.	6/12.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	saranya	13	female	6/9.	6/12.	no	l Beaula	Can see	Can't see
22/11/13	RCM Utthira Madha	8th A	logapriya	priya	12	female	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	tharani	13	female	6/6.	6/6.	yes	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	shenbaga priya	12	female	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	vinothini	13	female	6/9.	6/6.	yes	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	r.sindhu	13	female	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	jashmin	12	female	6/9.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	vaishnavi	12	female	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	karthikeyan	13	male	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	hari prasanth	13	male	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	mani kandan	13	male	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	thammu	12	male	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	annamalai	13	male	6/6.	6/6.	no	l Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	vignesh kumar	12	male	6/6.	6/6.	no	l Beaula	Can see	Can see

22/11/13	RCM Utthira Madha	8th A	logapriya	madhesh	12 male	6/6.	6/6.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	arun kumar	13 male	6/9.	6/6.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	chakravarthi	13 male	6/6.	6/6.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	karthik	13 male	6/9.	6/9.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	arjun	13 male	6/12.	6/18.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th A	logapriya	anand raj	13 male	6/6.	6/6.	no	I Beaula	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	archana n	12 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	sneha	12 female	6/24.	6/24.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	swetha	12 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	subhashini	14 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	k sumathi	13 female	6/18.	6/18p.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	sarika	13 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	jothi	14 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	ranjani.s	3 female	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	sujitha m	13 female	6/9.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	abinesh	13 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	arun kumar	13 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	k.karthik	13 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	l.clinton	12 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	r santosh	13 male	6/9.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	selvam	13 male	6/9.	6/9.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	surya r	14 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	dinesh	14 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	palraj	14 male	6/12.	6/18.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	v. prasanth	15 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	vishnu b	14 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	s. vimal kumar	13 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	RCM Utthira Madha	8th B	mahiba	vignesh kumar	12 male	6/6.	6/6.	no	C.L.Prema	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	ameen a	11 male	6/9.	6/9.	yes	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	sanjay s	12 male	6/6.	6/6.	yes	subramanian	Can't see	Can see
22/11/13	KAKM HS school	6th A	mahiba	vigneesh m	12 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	huzaiifa	12 female	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	devadaisini	12 female	6/9.	6/9.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	ommayaiman	12 female	6/6.	6/9.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	thera f	12 female	6/6.	6/6.	no	subramanian	Can see	Can't see
22/11/13	KAKM HS school	6th A	mahiba	ayisha m	11 female	6/9.	6/9.	no	subramanian	Can't see	Can see
22/11/13	KAKM HS school	6th A	mahiba	mahalakshmi	12 female	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	yuvraj	12 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	lokesh kumar	10 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	abdul basith	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	avinash	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	adishankar	12 male	6/12.	6/18.	no	subramanian	Can't see	Can't see
22/11/13	KAKM HS school	6th A	mahiba	harun rasheed	11 male	6/12.	6/12.	no	subramanian	Can't see	Can see
22/11/13	KAKM HS school	6th A	mahiba	perumal	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	muzzafur	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	suriya	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	azee z	10 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	raghavendar	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	shakul	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	aravindan	12 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	stalin	11 male	6/18.	6/18.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	vijay	10 male	6/24.	6/24.	no	subramanian	Can't see	Can't see
22/11/13	KAKM HS school	6th A	mahiba	godhandan	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	iliyas	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	mohd husaif	10 male	6/9.	6/6.	no	subramanian	Can see	Can't see
22/11/13	KAKM HS school	6th A	mahiba	abdul raheem	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	rahim	11 male	6/9.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	sateesh	13 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	kareem	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	amjath khan	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th A	mahiba	harish	12 male	6/6.	6/6.	no	subramanian	Can't see	Can see
22/11/13	KAKM HS school	6th A	mahiba	raahul	11 male	6/6.	6/6.	no	subramanian	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	Lokesh m	12 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	aarif R	11 male	6/6.	6/6.	no	janaki	Can't see	Can see
22/11/13	KAKM HS school	6th B	mahiba	kumar K	11 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	Sankar r	11 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	kumaravel	11 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	nandhini	12 female	6/9.	6/9.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	vigneesh raj	12 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	naveen kumar	12 male	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	t nandini	12 female	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	s sarika	12 female	6/6.	6/6.	no	janaki	Can see	Can see
22/11/13	KAKM HS school	6th B	mahiba	s swetha	12 female	6/6.	6/6.	no	janaki	Can't see	Can see
22/11/13	KAKM HS school	7th A	mahiba	nandhini	12 female	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	rashmi	12 female	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	safia	12 female	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	arun raj	12 male	6/12.	6/12.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	dhinesh	12 male	6/36.	6/12.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	firo	12 male	6/60.	6/36.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	giridhan	12 male	6/6.	6/6.	yes	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	gokul nath	12 male	6/12.	6/9p.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	afizula	12 male	6/12.	6/12.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	harish	12 male	6/18.	6/12.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	imthias	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	kalith	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	lokesh	12 male	6/9.	6/12.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	mazuth khan	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	mohan raj	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	mohd salim	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	mohd suliman	12 male	6/24.	6/24.	no	yuvraj	Can't see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	naveen	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	nathim	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	om prakash	12 male	6/9.	6/36.	no	yuvraj	Can see	Can't see
22/11/13	KAKM HS school	7th A	mahiba	ponnarasan	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	pramoth	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	praveen raj	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	rajesh	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	rias khan	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	ram kumar	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	suresh	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see



22/11/13	KAKM HS school	7th A	mahiba	jayanth	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	santosh kumar	12 male	6/9.	6/9.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	satish	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	sarvanan	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	suhaile	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	thamu	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	velmurugan	12 male	6/9p.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	venkatesh	12 male	6/6.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	wasim	12 male	6/12.	6/12.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	vimal	12 male	6/6p.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th A	mahiba	karthick	12 male	6/6p.	6/6.	no	yuvraj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	gayatri	12 female	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	thaslim begum	12 female	6/9.	6/9.	no	durairaj	Can see	Can't see
22/11/13	KAKM HS school	7th B	mahiba	arun kumar	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	mohd khaja	12 male	6/9.	6/6.	no	durairaj	Can't see	Can see
22/11/13	KAKM HS school	7th B	mahiba	karthick	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	lokesh r	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	lokesh v	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	mohan srinivasa	13 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	s.mohd	12 male	6/6.	6/9.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	mohd asif	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	murugan k	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	nandha kumar	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	ravindhran	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	sathyavel	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	s.salman	13 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	v santosh	12 male	6/9.	6/9.	no	durairaj	Can't see	Can see
22/11/13	KAKM HS school	7th B	mahiba	v.shanmugam	12 male	6/18.	6/12.	no	durairaj	Can't see	Can see
22/11/13	KAKM HS school	7th B	mahiba	v.vignesh kum	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	s.vinoth kuma	12 male	6/9.	6/9.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	7th B	mahiba	vasanth raj	12 male	6/6.	6/6.	no	durairaj	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	aysha sahila	12 female	6/9.	6/9.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	hajira banu	12 female	6/12.	6/12.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	jamilaa bee	13 female	6/6.	6/6.	yes	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	suganya	12 female	6/18.	6/12.	no	chandur kani	Can't see	Can see
22/11/13	KAKM HS school	8th A	logapriya	abrar ahmed	13 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	akash k	13 male	6/9.	6/6.	no	chandur kani	Can't see	Can see
22/11/13	KAKM HS school	8th A	logapriya	abbas	14 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	arafath	13 male	6/12.	6/12.	no	chandur kani	Can't see	Can't see
22/11/13	KAKM HS school	8th A	logapriya	arman khan	13 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	gopi	15 male	6/9.	6/9.	no	chandur kani	Can't see	Can see
22/11/13	KAKM HS school	8th A	logapriya	huzair i	13 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	imamudedeen	12 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	karthikeyan	12 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	mazzar	12 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	mubarak	14 male	6/9.	6/9.	no	chandur kani	Can't see	Can't see
22/11/13	KAKM HS school	8th A	logapriya	murugan balaj	14 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	mahesh kumar	13 male	6/9.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	prasanna	12 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	rajesh A	12 male	6/12.	6/9.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	santosh S	14 male	6/6.	6/9.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	salman khan	13 male	6/12.	6/12.	no	chandur kani	Can see	Can't see
22/11/13	KAKM HS school	8th A	logapriya	sanjay e	13 male	6/6.	6/18.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	zuber ahmed	13 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	dhand pani	13 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	thoueed	14 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	vishwa	14 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th A	logapriya	ameen shareif	12 male	6/18.	6/12.	no	chandur kani	Can't see	Can't see
22/11/13	KAKM HS school	8th A	logapriya	siva shanker	14 male	6/6.	6/6.	no	chandur kani	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	kirthiga	12 female	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	vinitha	13 female	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	jeevitha	12 female	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	N afreen	14 female	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	muzamil	12 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	vijay	12 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	karthick	13 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	sanjay	12 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	satish	13 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	gokul	13 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	prabhakaran	15 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	ashwin	13 male	6/6.	6/6.	no	regina thai	Can't see	Can't see
22/11/13	KAKM HS school	8th B	logapriya	salim basha	13 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	kathar	15 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	jaffar	14 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	r vignesh	13 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	8th B	logapriya	y arun	12 male	6/6.	6/6.	no	regina thai	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	karthi	14 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	rizwan	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	prakash	14 male	6/6.	6/6.	yes	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	praveen	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	raheep	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	raju	15 male	6/6.	6/6.	yes	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	rakesh	13 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	ravikumar	14 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	saran	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	suhaile	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	vasanthan	13 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	vignesh	15 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th A	logapriya	vinoth kumar	15 male	6/6p.	6/18.	no	balamurugan	Can't see	Can't see
22/11/13	KAKM HS school	9th A	logapriya	thabasum	14 male	6/6.	6/6.	no	balamurugan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	raghu raman	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	ranjith kumar	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	anand s	14 male	6/6.	6/6.	yes	pallavan	Can't see	Can see
22/11/13	KAKM HS school	9th B	logapriya	allabaksh	14 male	6/9.	6/12.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	senthil kumar	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	vasu	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	deepak kumar	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	kishore	14 male	6/6.	6/9.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	ajith kumar	14 male	6/12p.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	ganapathy	14 male	6/24.	6/24.	no	pallavan	Can see	Can't see

22/11/13	KAKM HS school	9th B	logapriya	chinnraj	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	althaf	14 male	6/6.	6/6.	no	pallavan	Can see	Can't see
22/11/13	KAKM HS school	9th B	logapriya	imran khan	14 male	6/12.	6/18.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	naaveen kumar	14 male	6/12.	6/18.	no	pallavan	Can't see	Can see
22/11/13	KAKM HS school	9th B	logapriya	suresh kannan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	jeelani s	13 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	giritharan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	kartik kumar	14 male	6/12p.	6/12p.	no	pallavan	Can see	Can't see
22/11/13	KAKM HS school	9th B	logapriya	ibrahim	13 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	tharagesh	13 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	hasifa	14 female	6/18.	6/18.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	mahalakshmi	13 female	6/9.	6/9.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	shalini	14 female	6/12.	6/9.	yes	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	muskan	14 female	6/9.	6/9.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	zakiya anjum	13 female	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	parkari	14 female	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	sabeeen	13 female	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	tahiya sameen	14 female	6/6.	6/6.	yes	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	pavithra	13 female	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	nivetha	13 female	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	abdul karim	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	balaji	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	iyappan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	murugan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	nambi	13 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	ranjith	15 male	6/6.	6/6.	no	pallavan	Can't see	Can see
22/11/13	KAKM HS school	9th B	logapriya	shakthivel	14 male	6/9.	6/9.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	sakthi narayan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	srinivasan	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	vignesh	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	rahum s	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	arun kumar	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	ganesh kumar	14 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th B	logapriya	annamalai	15 male	6/6.	6/6.	no	pallavan	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	ashwini	14 female	6/9.	6/9.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	nandhini	14 female	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	vaishnavi	14 female	6/9.	6/9.	no	sree vaishnavi	Can't see	Can't see
22/11/13	KAKM HS school	9th C	mahiba	swathi	14 female	6/6.	6/6.	no	sree vaishnavi	Can't see	Can't see
22/11/13	KAKM HS school	9th C	mahiba	madhumitha	14 female	6/36.	6/36.	no	sree vaishnavi	Can't see	Can't see
22/11/13	KAKM HS school	9th C	mahiba	sri devi	14 female	6/9.	6/9.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	nadiya	14 female	6/9.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	farzanna	14 female	6/12.	6/18.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	annamalai	14 male	6/18.	6/18.	no	sree vaishnavi	Can't see	Can't see
22/11/13	KAKM HS school	9th C	mahiba	madhavan	14 male	6/9.	6/6.	no	sree vaishnavi	Can't see	Can see
22/11/13	KAKM HS school	9th C	mahiba	Md ali	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	Md yusuf	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	naresh kumar	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	praveen kuma	14 male	6/9.	6/12.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	wasim akram	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	jaffar	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	manikantan	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	raja	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	khaadar m	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	j basha	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	k sabheesh	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	j Jasper	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
22/11/13	KAKM HS school	9th C	mahiba	karan k	14 male	6/6.	6/6.	no	sree vaishnavi	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	kadikachalam	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	aakash	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	ganesh s	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	lakshmanan	10 male	6/18.	6/12.	no	thyagarajan	Can't see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	raman	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	mushatham	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	viknesh	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	naaveen	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	arun kumar	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	yashwant	10 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	santhiya	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	jayashri	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	sathiya	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	tamil sri	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	gomathi	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	rajeshwari	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	divya priya	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	rajeshwari	10 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	5th	jasima	kuppamma	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	srinivasan	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	prakash	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	kathirvel	12 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	karthikeyan	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	suresh	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	senthil	13 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	karthick	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	monica	11 female	6/6.	6/18.	no	thyagarajan	Can't see	Can't see
26/11/13	Ramakrishna aided schc	6th	jasima	pavithra	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	kavya	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	rajarajeshwari	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	janani	11 female	6/24.	6/60.	no	thyagarajan	Can't see	Can't see
26/11/13	Ramakrishna aided schc	6th	jasima	swetha	12 female	6/6.	6/6.	no	thyagarajan	Can't see	Can't see
26/11/13	Ramakrishna aided schc	6th	jasima	rohini	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	dhanalakshmi	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can't see
26/11/13	Ramakrishna aided schc	6th	jasima	meena	11 female	6/9.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	preethi	12 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	saranya	11 female	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	6th	jasima	mohan raj	11 male	6/6.	6/6.	no	thyagarajan	Can see	Can see
26/11/13	Ramakrishna aided schc	7th	janaki ran	yuvraj	12 male	6/6.	6/6.	no	pooghavali	Can see	Can see
26/11/13	Ramakrishna aided schc	7th	janaki ran	karan	12 male	6/6.	6/6.	no	pooghavali	Can see	Can see
26/11/13	Ramakrishna aided schc	7th	janaki ran	s gokul	12 male	6/6.	6/6.	no	pooghavali	Can see	Can see
26/11/13	Ramakrishna aided schc	7th	janaki ran	r ashok	12 male	6/6.	6/6.	no	pooghavali	Can see	Can see
26/11/13	Ramakrishna aided schc	7th	janaki ran	s arun	13 male	6/6.	6/6.	no	pooghavali	Can see	Can see





28/11/13	Govt Muslim HS school 6th c	dinesh	yaseen	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	sayeed abhdid	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	sharafuddin	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	asif	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	gouse	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	abdul sulaimai	11	male	6/6.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	sayeed mohd	12	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th c	dinesh	khaja	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	aneesh	11	male	6/24.	6/24.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	asif ahmed	11	male	6/9.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	abdul aliam	12	male	6/9.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	sahim	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	badish	11	male	6/6.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	jeevan	11	male	6/6.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	kalid basha	12	male	6/60.	6/60.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd salim	11	male	6/9.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd yasin	11	male	6/6.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd samir	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	kalil	12	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	wasim	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd misba	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd wasim	12	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	mohd junniith	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	samir	11	male	6/9.	6/9.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	abdul rehman	12	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 6th D	dinesh	sayeed samir	11	male	6/6.	6/6.	no	abdul kayyum	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	h ayisha	12	female	3/60.	4/60.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	s ayisha	12	female	6/36.	6/36.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	u ayisha	12	female	6/18.	6/18.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	a amina	12	female	6/6.	6/6.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	l aathika	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	n afreen	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	n aliya	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a amreen	12	female	6/6p.	6/9.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	n asifa	12	female	6/12p.	6/12p.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	s athifa	12	female	6/12p.	6/18.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	s farzana	12	female	6/9.	6/6.	no	padmavathi	Can't see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	f fathiima	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a hajira	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	f kubra	12	female	6/6.	6/36.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	c mariyam	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a mashiha	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a mohsina	12	female	6/6.	6/6.	no	padmavathi	Can't see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	l nabeesa	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	l nafeesa	12	female	6/6.	6/6p.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a naseema	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	h nasreen	12	female	6/9p.	6/9p.	no	padmavathi	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th A	shilpa	l nasreen	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a neha	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	s rameeza	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	g rizwan	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	s rokshana	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	n sabina	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	a sabreen	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	sajidha	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	shafique	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	shazia	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	sumaiya	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	r sumaiya	12	female	6/6.	6/12.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	taheira	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	roshni	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th A	shilpa	akifa	12	female	6/6.	6/6.	no	padmavathi	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	samir khan	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	suhail	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	mohd athula	11	male	6/18.	6/18.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	hussain	12	male	6/6.	6/9p.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	ashger	12	male	6/6.	6/6.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th B	dinesh	isamail	13	male	6/24.	6/6.	yes	somalingam	Can't see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	reyaz	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	s rizwan	12	male	6/36.	6/36.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th B	dinesh	irfan	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	sherif	12	male	6/9.	6/12.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	mohd nazir	12	male	6/9.	6/9.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th B	dinesh	sayeed yasif	12	male	6/18.	6/18.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th B	dinesh	nizamuddin	12	male	6/9.	6/9.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th B	dinesh	rafeeq	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	aravindan	11	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	alladin	11	male	6/6.	6/9.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	aasif khan	11	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	m iliyas	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	a iliyas	13	male	6/36.	6/36.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	a mubarak	13	male	6/24.	6/12.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th C	dinesh	a sahabudeen	14	male	6/12.	6/12.	no	somalingam	Can't see	Can't see
28/11/13	Govt Muslim HS school 7th C	dinesh	a siddiq	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th C	dinesh	v vijay	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	s anwar	13	male	6/18.	6/9.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	jameel ahmed	13	male	6/12.	6/12.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	ansoor ali	12	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	meshabillah	12	male	6/6p.	6/6.	no	somalingam	Can see	Can't see
28/11/13	Govt Muslim HS school 7th D	dinesh	Md shafee	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	shahul	13	male	6/24.	6/18.	no	somalingam	Can't see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	tabrez	12	male	6/9.	6/9.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	usama	13	male	6/9.	6/18.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	tanir	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	kalimullah	12	male	6/12.	6/12.	no	somalingam	Can't see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	ishaq	13	male	6/12.	6/18.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	matheen	13	male	6/6.	6/6.	no	somalingam	Can see	Can see
28/11/13	Govt Muslim HS school 7th D	dinesh	mubarak basha	13	male	6/12.	6/12.	no	somalingam	Can see	Can't see
28/11/13	Govt Muslim HS school 7th D	dinesh	litish kumar	12	male	6/24.	6/36.	no	somalingam	Can see	Can't see
28/11/13	Govt Muslim HS school 7th D	dinesh	malik ahmed	13	male	6/9.	6/9.	no	somalingam	Can see	Can see







28/11/13	Govt Muslim HS schoool	9th B	dinesh	hasim basha	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	irfan	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	mehaboob bash	14	male	6/6.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	aleem	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	bilal	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	sulaiman bash	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	thousiq	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	waseem	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	ishaque	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	shaheed	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	mudassir	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	naddem	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	suhail	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	mubarrak bash	14	male	6/9.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	munavar bashi	14	male	6/12.	6/18.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	muzahamil	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	nizam khan	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	rafeeq	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	sulaiman s	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	sayed ahmed a	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	inamil hussain	14	male	6/24.	6/12.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th B	dinesh	sayeed khadir	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	r sunder	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	tabrrz	14	male	6/9.	6/9.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	rahmin khan	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	md imran	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	sashi kumar	14	male	6/9.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	balraj	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	kaleel	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	thanvir	14	male	6/9.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	imran basha	14	male	6/9.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	narasiman	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	shaddiq	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	ahmed a	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th C	dinesh	nizam	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	abdul khadeer	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	akram	14	male	6/9.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	asmathulla	14	male	6/9.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	bharat	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	dhiup kumar	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	govindaraj	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	ibrahim a	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	ibrahim s	14	male	6/12.	6/18.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	kaleel khan	14	male	6/18.	6/24.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md aarif	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md iliaz	14	male	6/12.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md kareem	14	male	6/12.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md huzuifa	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md musssfur	14	male	6/9.	6/9.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md shuaib	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	md safarulla	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	niyaz ahamed	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	saddam hussai	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	saddiq hussair	14	male	6/9.	6/12.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	shameel ahme	14	male	6/6.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	sathya	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	srinivasan	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	thoufiq a	14	male	6/12.	6/18.	no	narayani	Can see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	thoufiz t	14	male	6/6.	6/6.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	wahid	14	male	6/24.	6/36.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	waseem basha	14	male	6/6.	6/9.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	yasir arafat	14	male	6/6.	6/6.	no	narayani	Can see	Can see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	yuvraj	14	male	6/12.	6/18.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	zubaib	14	male	6/36.	6/18.	no	narayani	Can't see	Can't see
28/11/13	Govt Muslim HS schoool	9th D	dinesh	zubair	14	male	6/6.	6/9.	no	narayani	Can see	Can see

serial	nurage	gender	graduate	post gradu	teaching c	years of te	subject ta	type of scl	using glas	undergon	screened	pre test q	q2	q3	q4	q5	q6	q7	total score	post test	q2	q3	q4	q5	q6	q7	total score		
1	25	male	Bsc		Bed	3	others	govt	no	no	no	correct	wrong	correct	correct	correct	wrong	correct	5	correct	wrong	wrong	correct	wrong	correct	correct	4		
2	39	female	others			9	others	govt	yes	no	no	correct	wrong	correct	wrong	correct	correct	correct	5	correct	wrong	correct	correct	correct	correct	correct	6		
3	40	female	Bsc	Msc	Bed	8	others	govt	no	no	no	correct	wrong	correct	correct	correct	correct	correct	6	correct	correct	correct	correct	correct	correct	correct	7		
4	24	female	BA	MA	Bed	1	others	govt	no	no	no	correct	correct	correct	correct	correct	correct	correct	7	correct	correct	correct	correct	correct	correct	correct	7		
5	38	male	Bsc	Msc	Bed	8	science	govt	no	no	no	correct	wrong	correct	wrong	correct	wrong	correct	4	correct	correct	wrong	correct	correct	correct	correct	6		
6	40	female	BA	MA	Bed	13	others	govt	yes	no	yes	correct	correct	correct	correct	wrong	correct	correct	6	correct	correct	correct	correct	correct	correct	correct	7		
7	31	female	BA	MA	others	5	science	govt	aid	no	no	yes	wrong	correct	correct	wrong	correct	wrong	correct	4	wrong	correct	correct	correct	correct	correct	correct	6	
8	43	female	BA	MA	others	17	science	govt	aid	yes	no	yes	wrong	correct	correct	wrong	correct	wrong	correct	4	wrong	correct	correct	correct	correct	correct	correct	6	
9	35	female	BA	MA	Bed	13	others	govt	aid	no	no	no	wrong	correct	correct	wrong	correct	wrong	correct	4	wrong	correct	correct	correct	correct	correct	correct	6	
10	31	female			others	8	others	govt	aid	no	no	yes	wrong	wrong	correct	correct	correct	wrong	correct	4	wrong	correct	correct	correct	correct	correct	correct	6	
11	40	male	Bsc	Msc	Bed	17	others	govt	aid	no	no	no	correct	wrong	correct	correct	correct	correct	correct	6	correct	correct	correct	correct	correct	correct	correct	7	
12	42	female			others	13	science	govt	yes	no	no	correct	wrong	correct	wrong	wrong	wrong	correct	3	correct	correct	correct	correct	correct	correct	correct	correct	7	
13	36	female			others	12	science	govt	no	no	no	correct	wrong	correct	wrong	wrong	wrong	correct	3	correct	correct	correct	correct	correct	correct	correct	correct	7	
14	36	female	BA	MA	Bed	9	science	govt	yes	no	no	correct	wrong	correct	wrong	wrong	wrong	wrong	2	correct	correct	correct	correct	correct	correct	correct	correct	7	
15	45	female	Bsc		Bed	13	science	govt	yes	no	yes	wrong	wrong	correct	correct	wrong	wrong	correct	3	correct	correct	correct	correct	correct	correct	correct	correct	7	
16	39	male	BA	Msc	others	12	others	govt	no	no	no	wrong	correct	correct	wrong	correct	correct	correct	5	correct	wrong	correct	correct	correct	correct	correct	correct	6	
17	41	female	BA	MA	Bed	9	others	govt	yes	no	yes	correct	wrong	correct	correct	correct	wrong	correct	5	correct	correct	correct	correct	correct	wrong	correct	correct	6	
18	43	female	BA	MA	Bed	14	others	govt	yes	no	yes	correct	wrong	correct	correct	correct	wrong	correct	5	correct	correct	correct	correct	correct	wrong	correct	correct	6	
19	52	male			others	8	others	govt	yes	no	yes	wrong	wrong	wrong	correct	wrong	wrong	correct	2	wrong	correct	correct	correct	wrong	correct	correct	correct	5	
20	39	female	BA		Bed	13	others	govt	no	no	no	correct	wrong	correct	wrong	wrong	correct	correct	4	correct	correct	correct	correct	correct	correct	correct	correct	7	
21	30	female	Bsc	Msc	Bed	9	others	govt	no	no	no	correct	wrong	correct	correct	correct	correct	correct	6	correct	correct	correct	correct	correct	correct	correct	correct	7	
22	45	male	Bsc	Msc	Bed	10	others	govt	yes	no	yes	correct	wrong	correct	wrong	correct	correct	correct	5	wrong	correct	correct	correct	correct	correct	correct	correct	6	
23	48	male	BA	MA	Bed	24	others	govt	aid	yes	no	yes	correct	correct	correct	correct	correct	correct	7	correct	correct	correct	correct	correct	correct	correct	correct	7	
24	42	female	BA	MA	Bed	22	science	govt	aid	yes	no	yes	wrong	wrong	correct	correct	correct	correct	correct	5	wrong	correct	correct	correct	correct	correct	correct	correct	6
25	38	female	Bsc	Msc	Bed	10	others	govt	no	no	yes	correct	wrong	correct	correct	correct	correct	correct	6	correct	correct	correct	correct	correct	correct	correct	correct	7	
26	43	male	BA	MA	Med	17	others	govt	yes	no	no	correct	wrong	correct	correct	correct	correct	correct	6	wrong	correct	correct	correct	correct	correct	correct	correct	6	
27	43	male	BA	MA	Bed	12	others	govt	no	no	no	wrong	wrong	wrong	wrong	wrong	correct	correct	2	wrong	correct	wrong	correct	correct	wrong	correct	correct	4	
28	45	male	BA	MA	others	16	others	govt	yes	no	yes	correct	correct	correct	correct	correct	wrong	correct	6	correct	correct	correct	correct	wrong	wrong	correct	correct	5	
29	49	male	Bsc	Msc	Bed	14	others	govt	yes	no	no	correct	correct	correct	correct	correct	correct	correct	7	wrong	correct	correct	correct	correct	correct	correct	correct	6	
30	41	female	Bsc		Bed	11	others	govt	no	no	no	correct	wrong	correct	wrong	correct	correct	correct	5	correct	correct	correct	correct	correct	correct	correct	correct	7	
31	49	female	BA	MA	Bed	20	others	govt	yes	no	no	correct	wrong	correct	wrong	correct	correct	correct	5	correct	correct	correct	correct	correct	wrong	correct	correct	6	
32	40	female	BA	MA	Bed	10	others	govt	no	no	yes	correct	wrong	wrong	wrong	correct	wrong	correct	3	wrong	wrong	correct	correct	correct	wrong	correct	correct	4	
33	35	female	Bsc		Bed	12	others	govt	no	no	no	correct	wrong	wrong	wrong	correct	wrong	correct	3										
34	48	female	BA	MA	Bed	13	others	govt	no	no	no	correct	wrong	correct	correct	correct	wrong	correct	5	correct	wrong	correct	correct	correct	wrong	correct	correct	5	

**Teachers data – excel spread sheet**