

Effectiveness of a novel mobile phone health education intervention (Peek: Portable Eye Examination Kit) on spectacle wear among children in India

Submission date 28/06/2016	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 29/06/2016	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 25/02/2021	Condition category Eye Diseases	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

The aim of this study is to see whether a health education package (the intervention) for teachers, parents and children (aged 11-15 years), delivered using innovative mobile phone technology (Peek Acuity) encourages children to wear their eyeglasses (spectacles) as well as increase the number of children being referred that have been identified as needing to wear glasses during a vision screening. This study will also assess the costs of developing and delivering the health education intervention, and dispensing and delivering the spectacles. It is hoped that the study will help to improve children's vision, increase awareness of the benefits of spectacle wear and reduce the stigma surrounding it.

Who can participate?

Children aged between 11-15 years of age in urban and rural government schools in Hyderabad, India.

What does the study involve?

Participating schools are randomly allocated to one of two groups. Children attending schools in group 1 undergo a visual screening using a mobile phone application called Peek (Portable Eye Examination Kit) and are given health education through a mobile phone app that simulates the blurry vision experienced by children who need to wear spectacles. These images are printed on cards that children take back home to their parents. Larger versions of these images are also used for classroom education for all children. Children attending schools in group 2 undergo standard visual screening using letter charts and take home an information sheet for their parents. In both groups, children who need spectacles chose from a range plastic and metal frames that they are given for free. At 3-4 months, all the children that are given spectacles are followed up to see whether they are wearing them and are asked questions about why they are wearing/not wearing them. The reasons given are compared between the two groups.

What are the possible benefits and risks of participating?

Correction of blurry vision is very beneficial for the children. It has an impact on their quality of life, behavioural development and academic performance. Health education about vision problems and spectacles for parents, teachers and other children is beneficial to society at a larger scale as it will create awareness on the importance of vision correction and reduce the stigma around spectacle wear especially for girls. There are no expected risks to participation in the study.

Where is the study run from?

The International Centre for Eye Health, based at the London School of Hygiene and Tropical Medicine in collaboration with the Public Health Institute of India based in Hyderabad, India.

When is study starting and how long is it expected to run for?

January 2016 to July 2017

Who is funding the study?

1. International Agency for the Prevention of Blindness (IAPB), through the Standard Chartered Bank: Innovation Fund
2. Vision Impact Institute

Who is the main contact?

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Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Protocol serial number

2.0

Study information

Scientific Title

Effectiveness of a novel mobile health education intervention on spectacle wear among children in India: a cluster randomized trial

Study objectives

The proportion of children wearing spectacles 3 to 4 months after they were given their spectacles is higher in schools allocated to the innovative educational package for children, teachers and parents than in schools randomised to the standard program.

The null hypothesis is that there is no difference in spectacle wear between the two arms of the trial.

Ethics approval required

Old ethics approval format

Ethics approval(s)

London School of Hygiene and Tropical Medicine (UK): Observational/interventions Research Ethics Committee, 24/06/2016, ref: 1079801

Awaiting approval from:

2. Institutional Ethics Committee: Public Health Foundation of India
3. Indian Council for Medical Research

Study design

Cluster randomized superiority trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Refractive errors in children

Interventions

For this field, we ask that you please provide more information about the interventions used in this study? We would like a brief methodology for each of your treatment arms, including the control group (if used), the treatment given, the total duration of the treatment and follow-up for all treatment arms. With this in mind, I have taken some of the information you supplied in your plain English summary and added it to this field. Please tell me if you want any changes.

Over a period of 4-8 weeks, children in government schools in Hyderabad will be screened for vision problems. Schools will be randomised to two groups. In schools in one group children will be screened using a novel mobile phone application called Peek (Portable Eye Examination Kit) and provided health education using a mobile phone app that simulates the blurry vision experienced by children who require spectacles. These images will be printed on cards that children will take back home to their parents. Larger versions of these images will also be used for classroom education for all children. The control group will have standard screening using

letter charts and will take home an information sheet for their parents. In both groups, children who require spectacles will choose from a range of plastic and metal frames. All children will be given spectacles free of cost and they will be delivered at the same time to avoid any bias.

At 3-4 months all children given spectacles will be followed up to observe spectacle wear and asked questions about why they are wearing/not wearing their spectacles. The reasons for wearing/not wearing spectacles will be compared between the two groups.

Intervention Type

Device

Primary outcome(s)

The proportion of children in each arm of the trial who are wearing their spectacles at unannounced visits 3 to 4 months after they were given their spectacles.

The trial has been powered to detect $\geq 20\%$ difference in the proportion of children wearing spectacles in the intervention arm compared with the standard arm. Categories 1 or 2 below will be defined as spectacle wearing, and categories 3 or 4 as non-spectacle wearing:

1. Children were wearing their spectacles at the time of the unannounced visit
2. Children were not wearing their spectacles at the time of the visit but have them at school
3. Children were not wearing their spectacles at the time of the visit but said they were at home
4. Children said they no longer had their spectacles as they were broken or lost

Key secondary outcome(s)

1. Reasons for non-spectacle wear and for spectacle wear will be done by structured interviews
2. Uptake of referrals: tracking children who have been referred against hospital registers /records
3. Cost analysis: analysis of data on cost of spectacles, producing health education package etc.

Measured 3-4 months after visual screening

Completion date

01/07/2017

Eligibility

Key inclusion criteria

1. Age 11-15 years
2. Presenting visual acuity (i.e. with spectacles if usually worn) of less than 6/9 in both eyes
3. The visual acuity with full correction improves by two or more lines in one or both eyes
4. Parents must consent for their child to take part in the study
5. Assent is obtained from the child

Participant type(s)

All

Healthy volunteers allowed

No

Age group

Child

Lower age limit

11 years

Upper age limit

15 years

Sex

All

Total final enrolment

701

Key exclusion criteria

1. Children with other causes of visual loss
2. Children whose visual acuity does not improve adequately with refraction
3. Children whose parents do not consent
4. Children who do not assent

Date of first enrolment

02/01/2017

Date of final enrolment

31/03/2017

Locations**Countries of recruitment**

India

Study participating centre**Public Health Foundation of India**

Indian Institute of Public Health

Plot #1, Road number 44

Kavuri Hills, Madhapur

Hyderabad

India

500033

Sponsor information**Organisation**

London School of Hygiene and Tropical Medicine

ROR

https://ror.org/00a0jsq62

Funder(s)

Funder type

Charity

Funder Name

International Agency for the Prevention of Blindness (IAPB)

Funder Name

Vision Impact Institute

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	17/10/2020	25/02/2021	Yes	No
Protocol article	protocol	08/04/2017		Yes	No