

Creating a child-friendly environment in paediatric ophthalmology practice

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Review Article

Abstract

In most developing countries particularly in Nigeria, the paediatric ophthalmology subspecialty is still at its infancy especially in terms of human resources, equipment and infrastructure. It is therefore important to bring to notice the importance of creating a child friendly eye care environment while putting up an eye care unit. This will help in making prompt and adequate diagnosis which will help in giving the child good vision. It also gives the child and parents the confidence, and enthusiasm to return for follow up which is of utmost importance in patient care and management in order to prevent avoidable blindness.

This article will also contribute to the information and data base in Nigeria as there is paucity of data on this topic in Nigeria and most other parts of Africa.

Key words: Child, eye care, friendly environment

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Créer un environnement pour les enfants dans la pratique de l'ophtalmologie pédiatrique

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Review article

Résumé

Dans la plupart des pays en développement particulièrement au Nigeria, l'ophtalmologie pédiatrique surspécialité en est encore à ses balbutiements en particulier en termes de ressources, de l'équipement et de l'infrastructure humaine. Il est donc important d'apporter à remarquer l'importance de créer un environnement de soins oculaires pour les enfants tout en mettant en place une unité de soins oculaires. Cela aidera à faire un diagnostic rapide et adéquate qui contribuera à donner à l'enfant une bonne vision. Il donne aussi l'enfant et les parents de la confiance, et l'enthousiasme de revenir pour suivi qui est de la plus haute importance dans les soins et la gestion des patients afin de prévenir la cécité évitable.

Cet article va également contribuer à l'information et base de données au Nigeria car il ya peu de données sur ce sujet au Nigeria et la plupart des autres parties de l'Afrique.

Mots clés: Enfants, soins de la vue, environnement

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INTRODUCTION

A child is defined by the United Nations International Children Education and Funds (UNICEF) Convention on the Rights of the Child, as a person under the age of 18 years (1).

An environment is defined by the American Oxford Dictionary as the surroundings or conditions in which a person, animal, or plant lives or operates. This includes the setting or conditions in which a particular activity is carried on like in a good learning, or examining or care environment (2). A hospital environment can also be considered as a particular geographical area which deals with human health activities (2).

What Makes a Child-Friendly (Eye Care) Environment?

The definition of a child friendly eye care environment (CFEE) has been adapted from UNICEF's definition of child friendly learning environment (3). It can therefore be described as a place where children's opinions and needs are taken into consideration, where peace and gender equity, differences of class, caste and religion are accepted, a secure place that is free from violence and abuse, sale or trafficking that would also create opportunities for children's eye care to be accessible, affordable both inside the hospital and in the community. It also allows healthy lifestyles, life skills and above all eye care in children to be promoted (3).

Human resources and equipment should also be child friendly (1).

Why the child friendly environment?

A child friendly environment is one that provides a conducive and acceptable place for caring for a child as well as giving the child confidence and comfort to allow examination and treatment procedures to be carried out before treatment (4).

Justification:

The developmental ages between 0 and 6 years are a sensitive period for vision. If the brain doesn't learn how to see then, there can be permanent damage, including blindness (5).

Children visiting the eye clinic often have to use adult-sized equipment in 'scary' examinations rooms that wouldn't necessarily cater to their 'unique needs and therefore they require unique eye care treatment. Children should be not be seen as little adults but as children which they are and. A dedicated pediatric eye care wing helps children feel relaxed and comfortable because of a child-friendly environment (6).

When children are examined in a nonthreatening

way, we get information we might not get otherwise," said Ophthalmologist Tina Rutar, MD, the director of University of California, San Francisco (UCSF) Visual Center for the Child while opening the centre in 2010.

METHODS

Pubmed search using terms such as 'Health information leaflets, "pediatrics [MeSH Terms] OR "pediatrics"[All Fields] OR "pediatric"[All Fields]) AND ("ophthalmology"[MeSH Terms] OR "ophthalmology"[All Fields]) AND setting[All Fields]. ("eye"[MeSH Terms] OR "eye"[All Fields]) AND patches [All Fields] AND ("child"[MeSH Terms] OR "child"[All Fields] OR "children"[All Fields]). ("eye"[MeSH Terms] OR "eye"[All Fields]) AND ("ointments"[MeSH Terms] OR "ointments"[All Fields] OR "ointment"[All Fields]) AND versus[All Fields] AND ("ophthalmic solutions". "pediatrics"[MeSH Terms] OR "pediatrics"[All Fields] OR "pediatric"[All Fields]) AND friendly[All Fields] AND ("eye"[MeSH Terms] OR "eye"[All Fields]) AND frames[All Field

Google search using terms such as “ patient information leaflets, health information, child friendly environment and health information tips” Medscape search using terms such as colourful eye patches, and children frames.

Ethical clearance was sought from College of Health Sciences research and ethical committee.

How can we create a child-friendly eye care environment?(CFEE)

The process can be divided into the following stages/places:

1. Waiting area/Reception:

The waiting area or reception could have toys, videos (games) or cartoon network television, or pictures on the wall that catch their interest. All must be in attractive colors. A similar project was carried out by ORBIS Vietnam and HUE Eye Hospital. The reason was to help reduce fear of hospitals and doctors among both children and parents. The children will be more comfortable in a friendly environment, which will allow doctors to examine children better (7).

Even with all these attractive colours and toys e.t.c to occupy a child's attention waiting time must be shortened as best as possible. This has been shown to allow better cooperation during examination and also encourage follow up and or subsequent visits to the clinic (7, 8).

The doctor can observe a child playing along the

corridor leading to the consulting room (CR) or in the waiting room. The advantages are for instance, when new patients are brought to the clinic, eye examinations begin even before they enter the doctor's room by observation. Some diagnoses may be made at this observatory stage (9).

There should always be enough space for play. The space should also be comfortable, safe and free of injury prone sharp corners. It could also have a soft, comfortable flooring, or rug placed on a cold floor where children can sit down and play (Fig.3). This will also be parent friendly (10).

Some authorities even think of sleep patterns for the children. Some health care facilities incorporate this. This could be an added advantage in a pediatric eye care setting since it would be both child and parent friendly (11). In addition, the New York health code article 47, advises that the 'space for children's exclusive use, rooms, areas and other spaces utilized by children in a child care service shall be reserved for their exclusive use and shall not be shared with other children or adults while the service is in operation. Space for children's social activities is found invaluable for creating a positive hospital experience by taking care of boredom, and making them feel socially connected to both the hospital community and to the outside world (12).

It is also worth noting that no child facility should be established above the 3rd floor' (13).

2. Consulting Room(CR):

Like the waiting rooms, toys and videos should also be available here. These would help put children at ease and distract them from doctors looking at their fundi.

Attractively or fancifully decorated rooms, walls, chairs, and equipment e.g Slit Lamp Biomicroscope (Fig 1), use of swivel and adjustable chairs, children's VA charts, if possible computerized with press button as this supports a CFEE. An interactive, child-friendly setting is key to identifying problems as early as possible (6).

Age-appropriate dedicated examination kits, instruments, and beds are advised. This would make examination fast for both the child and the doctor so that the child does not lose interest and exhibit a lack of cooperation (13).

3. Examination techniques:

Paediatric instruments are required for proper

assessment in children.

Sweets and candies used to distract attention and feel relaxed are very useful. Examination under anaesthesia (EUA) for children less than 5 years old and others who would not cooperate is the best option. Instilling eye drops for a child is not usually a pleasant experience (8) so parents can be taught how to apply.

Visual acuity (VA) charts according to age groups are to be used e.g, Lea's charts, paddle and puzzles for assessment

In a well set up clinic, a well equipped outpatient theatre is adjacent to the clinic with Anaesthetists and Optometrist on duty every day while the Ophthalmologists run the clinic.

The use of a cordless binocular indirect ophthalmoscope, appears less scary to the child as well as prevents accidental falls. Fancifully decorated table and examination couches' and spread which have attractive baby pictures or toys would help distract children's attention during examination. (Fig 2). Examination tables should be adjustable upwards, downwards or sideways. Paediatric spectacle frames should also be available (10). When we examine young children in a nonthreatening way, we get information we might not get otherwise," said ophthalmologist Tina Rutar, MD, the center's director.

4. Instruments/Equipment:

Paediatric visual acuity charts based on LogMar charts for easy reading and interpretation, pictorial VA charts read at near distance of 2.5 to 3m or at 33-40cm from the eye, fanciful occluders, hand held or portable slit lamp, hand held autorefractors, hand held or portable keratometers. Non contact tonometers and cordless binocular indirect ophthalmoscopes all help in easy and less time consuming examination of children. However they cost some fortune.

Paediatric sized lid speculums are very important in the clinic so that we do not overstretch the eye and cause pain or increase the peri- orbital pressure during examination.

5. Treatment Modalities:

These include medical, surgical, optical methods and other methods.

The medical modality of treatment involve the use of topical or systemic medications. Ointments are preferred because of long duration of action and reduction of side effects e. g atropine ointment versus atropine eye drops used

for cycloplegia. It also reduces stinging effects caused by some eye drops. A study among Nigerian children had also shown that cyclopentolate and tropicamide combination was as effective as atropine as well as less expensive. It also was preferred as fewer children were lost to follow up compared to atropine (14).

When applying eye drops do not force open the eyes if child does not cooperate. Just put a drop over the inner canthus as the child lies face up and wait. The drops flow into the eye on attempted eye opening. Better still, allow or teach the nurse and mother how to apply it. Combination drugs are preferred e. g steroid antibiotics or anti glaucoma drops. They help in reducing multiple frequency of administration of drugs.

The surgical modalities of treatment are usually carried out under anaesthesia - except if the child cooperates, usually at ages 14 years upwards. However this is subjective. Some works carried out showed that where parents were allowed into the theatre before anesthetizing the children led to cooperation, smoother and faster induction of anaesthesia. Other advantages would include reduced psychological trauma to the child and decreased anxiety of the parents (15).

The use of premedication is important and is now a current trend in preparing a child for anaesthesia. Some sedatives e.g Midazolam are added to a very sweet syrup e. g Multivitamin syrups. It makes the child sleep off within 5 to 20 minutes and therefore reduces struggling and crying on the way to theatre. Also intravenous line could be set conveniently because child would neither be scared nor uncooperative. In addition, the parents' anxiety would be reduced (16).

The optical modality involves refraction, use of frames and lenses. Very colourful, light weight plastic frames are preferable. They have less reactions with the skin in a hot climate (Miraflex frames). Plastic lenses are also preferable. Its advantages include lighter weight and reduced tendency to get broken. Firm fitting frames which do not slide down the nose should be used or else the child wouldn't look through the lenses. If this happens, the effect desired in seeing through would not be achieved. This may also create the desire not to continue with the spectacles therefore leading to poor vision or amblyopia.

Designed head bands or colourful ropes could be used to secure spectacles in place if

frames are not firm or in a child that is capable of removing the spectacles after being worn. Invogue frames for the older child should be encouraged. Choosing of frames personally by the child should be allowed otherwise peers could make jest of the child. Apart from the fact that the frame forcefully chosen for the child may be intentionally destroyed, it could also be put to rest at the bottom of the box.

The other treatment methods include the use of eye patches during occlusion therapy for amblyopia. The colourful designs are better acceptable to children even though more expensive. When prescribing brands of patch, the wide variety is advised to be considered because it was found to be more comfortable and additionally better mechanical properties (17).

Audio visuals can also be used during amblyopia therapy. Television, cartoons, video or games could be played for a child to watch. For cases of squints orthoptics may be required to complete treatment. The Orthoptists could also make use of audiovisual in order to make ocular exercises more interesting to a child

Use of Information Posters / Leaflets

These are information passed across to parents in form of posters, leaflets, pictures, video tapes or on electronic information board. They are usually displayed in the waiting areas/reception, consulting rooms, wards and theatre waiting areas. They are useful because the parents' psychological aspect would be taken care of partly after reading through or listening to the information, it could stimulate understanding of the disease condition, allows parents' cooperation and increases motivation towards child management-especially cataract and amblyopia. A study on effective communication and patients' endoscopy treatment experience revealed that over 95% of patients were satisfied following use of structured information leaflets and improvement on staff communication skills (18). Some researchers have gone further to develop a personalized care management electronic educational tool to assist in patients' information and knowledge (19). Types of information given to parents can be on some common eye problems in children like watering eye (20). Despite these advances, there are still some doubts whether these information leaflets or electronic versions make or more intended assistance towards the patient's treatment. These should be made to be more patient friendly and less frightening (21).

Eye Health Tips For Children

The information can be displayed on posters, electronic board, or with the use of large font-sized print. Examples of information could be as follows:

Healthy eyes and vision are an important part of every child's development. At any specialist eye clinic, we recommend that your children's eyes be examined regularly, as many vision problems and eye diseases can be detected and treated early.

Kids who wear prescribed glasses or contacts should have regular checkups to screen for vision changes.

'Eye problems in children could be spotted if certain signs that a child may have vision problem could be known. For example constant eye rubbing, extreme light sensitivity or poor focusing eyes, are some conditions that can affect kids. Most could be detected by vision screening using dalignment or movement of the eyes (after 6 months of age), chronic redness, chronic tearing and a white pupil instead of black- i.e. recognizing "the glow" are to be looked out for.

In school-age children, we can watch out for possible signs like inability to see objects at a distance, inability to read the blackboard, squinting, difficulty in reading, sitting too close to the TV, evidence of poor vision or cross eyes.' These information provided under the "Eye Health TIPS For Children" can be printed on posters and pasted on the walls of the waiting room, consulting rooms, and wards. They can also be presented on electronic bill boards (22), (Fig 3)

Most friendly is that they be written also in local languages for all to understand

It is necessary for all staff in the clinical setting to be friendly, helpful, and understanding to both the children and parents or caretaker (8).

CONCLUSION

A child friendly eye care environment helps in early detection of diseases, prompt treatment and better quality of life. This would assist in achieving aims of VISION 2020 –The "Right to Sight" and the Millenium Development Goals for prevention of childhood blindness

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Figure 1. Child eye examination on a colourful slit lamp (culled from Ref. 9)



Figure 2. A colourful passage for a waiting area (culled from Ref. 9)



Figure 3. A wide safe play area with colourful toys © (culled from Ref. 10)

What Is A Cataract?

A cataract is a clouding of the normally clear and transparent lens of the eye. It is not a tumor or a new growth of skin or tissue over the eye, but a fogging of the lens itself. Normally the lens of the eye is clear. When a cataract develops, the lens becomes as cloudy as a frosted window.

Located near the front of the eye, the lens focuses light on the retina at the back of the eye. Light passes through it to produce a sharp image on the retina. When a cataract forms, the lens can become so opaque and unclear that light cannot easily be transmitted to the retina. Often, however, a cataract covers only a small part of the lens and, if sight is not greatly impaired, there is no need to remove the cataract. If a large portion of the lens becomes cloudy, sight can be partially or completely lost until the cataract is removed.

There are many misconceptions about cataracts. For instance, cataracts do not spread from eye to eye, though they may develop in both eyes at the same time. A cataract is not a film visible on the outside of the eye, is not caused from overuse of the eyes, and using the eye does not make it worse. Cataracts usually develop gradually over many years; rarely they develop over a few months. Finally, cataracts are not related to cancer and having a cataract does not mean a patient will be permanently blind.

Normal Eye

The lens focuses light on the retina.

As a cataract forms, the lens becomes opaque and light cannot easily be transmitted to the retina.

Causes And Symptoms

There are many types of cataracts. Most are caused by a change in the chemical composition of the lens resulting in a loss of transparency. These changes can be caused by aging, injuries to the eye, certain diseases and conditions of the eye and body, and heredity or birth defects.

The normal process of aging may cause the lens to harden and turn cloudy. These are called *senile cataracts* and are the most common type. They can occur as early as age 40.

Children as well as adults of any age can develop cataracts. When cataracts appear in children, they are sometimes hereditary or can be caused by infection or inflammation which affect the pregnant mother and the unborn baby. These are called *congenital cataracts* and are present at birth.

Eye injuries can cause cataracts in patients of any age. A hard blow, puncture, cut, intense heat or chemical burn can damage the lens resulting in a *traumatic cataract*.

Certain infections or diseases of the eye such as diabetes, can also cause the lens to cloud and form a *secondary cataract*.

Depending on the size and location of the cloudy areas in a lens, a person may or may not be aware that a cataract is developing. If the cataract is located on the outer edge of the lens, no change may be noticed in vision, but if the cloudiness is located near the center of the lens, it usually interferes with clear sight. As cataracts develop there may be hazy, fuzzy, and blurred vision. Double vision may also occur when a cataract is beginning to form. The eyes may be more sensitive to light and glare, making night driving difficult. There may be a need to change eyeglass prescriptions frequently.

As the cataract worsens, stronger glasses no longer improve sight. It may help to hold objects closer to the eye to read and do close-up work. The pupil, which is normally black, may undergo noticeable color changes and appear to be yellowish or white.

Figure 4. Cataract information leaflet: © American Academy of Ophthalmology