The Relation of Sibling Spectacle Wear to Childhood Malingering Rates

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Abstract:

Will five to sixteen-year-old children with one or more siblings who wear glasses be more likely to malinger than five to sixteen year old children without any siblings who wear glasses? This was the question addressed by the study. The overall malingering rate was also determined.

Research subjects were determined by children presenting for ocular examination at the Michigan College of Optometry clinic whose parent or guardian signed the consent on the back of the history form. Each child was identified as part of the group in which one or more siblings wear glasses or else part of the control group in which no siblings wear glasses. This was accomplished during a routine case history in an ocular examination. A normal eye examination was performed and any signs of malingering were noted by the examiner and later recorded on a research recording form, as well as the group to which the child belonged. Gender and date of birth of the patient, date of the exam and name of the examiner were also recorded to ensure that no child was counted more than once during the research period. At the end of the one-year data-gathering period, results were placed in a 2 x 2 table and a chi-squared analysis was performed to determine any level of significant difference between groups. Overall malingering rates in the sample population were also addressed.

The results showed a statistically significant difference ($p= 0.05$) between the group whose siblings wore glasses and the group whose siblings did not wear glasses. In addition, the overall malingering rate in the sample population was 15.66%, with the females having a higher malingering rate than the males at 17.50% versus 13.95%. These results show that malingering is a relatively common occurrence in the pediatric population and that factors such as sibling spectacle wear may influence a child to malinger.

Introduction:

Malingering has many definitions, but in a medical context means that a patient presents with exaggerated or false symptoms in order to gain something desired. The term has many psychological implications and, therefore, in the concrete world of science and medicine, can be a hurdle that must be jumped by the examiner in order to come to the correct conclusions. On a broad basis, malingering contributes to the total cost of health insurance fraud in the United States, which totaled more than $59 billion in 1995.[1] The most common goal of malingering in a clinical setting is financial gain, often through lawsuit rulings.[1]

In pediatric optometry and ophthalmology, malingering is known to occur from time to time but there may be some lack of awareness of it in the overall medical community.[2] By comparing objective and subjective data, observing inconsistent responses and knowing which responses could and could not be theoretically possible,

the examiner must judge whether the child is malingering. When malingering is determined to be occurring, the examiner must find ways to sort out fact from fiction during the examination. This often involves altering the tests performed and de-valuing patient responses. Therefore, it is important that eye care professionals are able to detect malingering, have a general idea of how often it occurs and what factors may influence a child to behave in that manner.

Malingering is not considered a mental illness[1], although the reasons that children malinger during ocular examination are diverse and psychological in nature. One possible reason is to gain or avoid the prescription of glasses. Why would a child want glasses when he or she knows that they are not needed? Why would a child want to avoid glasses so much that he or she would falsify exam data? The reason investigated in this study was that one or more siblings had glasses and therefore the patient either wanted them or wanted to avoid them. A link between these factors was sought to be either proved or disproved by this research.

Methods:

Only patients ages five to sixteen whose parent or guardian had signed the consent on the back of the Michigan College of Optometry exam form was included in this research. Gender of the patient was recorded to see whether male or female children were more likely to malinger. Ethnicity was not considered as a factor in this study.

During the case history, the following question was asked: "Does the child have one or more siblings who wear glasses?" During the routine examination, any signs of malingering were noted by the clinician. These signs were inconsistent responses by the patient, such as inconsistent exam data, a large and unexplainable difference between objective and subjective data or responses that were not theoretically possible. At the conclusion of the examination, the clinician recorded, on a prepared research form, the gender and date of birth of the patient, as well as the exam date and name of the clinician. The clinician checked yes or no as to whether the child has one or more siblings who wear glasses. The group of children who had no siblings wearing spectacles was the control group. Based on the criteria given for malingering, the clinician checked yes or no as to whether the child malingered during the ocular examination. If yes was checked, the clinician was asked to write a brief explanation of how the child exhibited malingering, such as specific behaviors or responses. The forms were deposited into a box in a secure location within the clinic for pick-up.

The data was collected for seven months and then a chi-square analysis was performed. The chi-squared (X^2) result was used to calculate the probability value (p-value) of statistical significance of the data.

Results:

There were 83 subjects in the study, 43 of whom were male. The total number in the control group of children who had no siblings wearing glasses was 49 children. Of the total number of children, 13 or 15.66% malingered. Of the males, six out of 43 total males, or 13.95%, malingered. Of the females, seven out of 40 total females, or 17.50%, malingered. The number of those children who malingered and one or more sibling wore glasses was nine out of the total 13 who malingered, or 69.23%. Only four children who malingered did not have one or more siblings who wore spectacles, or 30.77%.

Using a two by two chi-square table to compare patients whose siblings wore glasses, patients whose sibling did not wear glasses, the children who malingered and those who did not malinger, the value of X^2 was found to be 3.9. This value was used in the probability value table to find a p-value of 0.05, which is statistically significant.

Discussion:

The results of this study indicate that sibling spectacle wear is indeed an influence, in part, on pediatric malingering rates in ocular examination. This information may aid examiners in taking a pediatric case history, as they may want to add this question to their case history battery. This may also indicate the desire siblings have to mimic each other or avoid being alike.

The rate of malingering occurring in this pediatric population is surprisingly high. Examiners should not forget that the desire to avoid getting glasses could lead to malingering in the same way as the desire to be told that glasses or contacts are needed. This study did not differentiate between these two groups. Having a sibling who wears glasses may spark a desire for them in order to emulate the sibling. On the other hand, it may create distaste for glasses by seeing a sibling ridiculed by peers for wearing them or making the child desire to be different from the sibling.

The detection of malingering can be difficult, as there are currently no simple and standardized tests for that purpose. Visual evoked cortical potentials and electroretinograms can be used to differentiate malingering or psychogenic vision loss with normal retinal function from abnormal retinal functioning.[3] These tests are not used in routine examinations due to their time constraints and difficulty in performing. In his paper, Ocular Malingering: A surprising visual acuity test, Michael Graf, M.D. shows that a test consisting of 32 test plates, four of which are circles and the rest of which are Landolt C's can accurately identify psychogenic visual impairment and malingering.[4] Using this test to detect malingering rates in a sample pediatric population would be interesting for future study.

Many disorders may mimic malingering without careful differentiation. These can be classified at somatoform disorders. Somatoform disorders are defined by the American Psychiatric Association as "one or more physical complaints where either appropriate evaluation uncovers no organic pathology or pathophysiologic

mechanism to account for the physical complaints or when there is related organic pathology, the physical complaints or resulting social or occupational impairment is grossly in excess of what would be expected from the physical findings."[5] Malingering is a type of somatoform disorder. Some of the others are described below. In a general clinic, Garber et al. found that 50% of children report one somatic complaint, 15% four or more and 1% have up to 12 symptoms.[5] It has been found that malingering is most likely to occur in children with antisocial personality disorders.[1]

Pediatric malingering should be differentiated from ocular hysteria (conversion disorder) in which patients do not try to falsify exam data and are not conscious that they are producing the symptoms.[3] In finding a reason that a child would desire or not desire glasses, malingering can be established versus hysteria. If a reason cannot be elicited, then a distinction must be made by clinical exam data. A hysteric tends to give results consistent with a visual loss or decrease despite the test given while a malingerer tends to be more inconsistent and less cooperative overall.

In addition, in functional overlay the patient has pathology that contributes to the visual decline but exaggerates the condition emotionally.[3] This can be distinguished from malingering by the presence of pathology or injury.

Factitious Disorder is similar to malingering in that a patient produces false symptoms but, in this disorder, there is no external motivation for producing those symptoms.[3] This type of patient does not desire glasses or contacts but may desire being told that there is something wrong with them.

Hypochondriasis is a consistent fear of serious illness that is usually not relieved by medical reassurance. It does not typically occur in children and is rare in adolescents.[5] Therefore, it was not a factor in this research.

One example of the malingering that took place was a nine-year-old boy who came in seeing 20/30 in each eye. Twenty minutes into the examination, the patient claimed that his vision went blurry all of a sudden. Visual acuity testing revealed hand motion acuity but plano lenses made him see a clear 20/20 in each eye. The child commented at the beginning of the exam that his mom wore glasses and he wanted some "just like hers but for nine-year-olds."

The most obvious case of malingering occurred when an eleven-year-old boy presented for an exam with poor vision in his left eye and diplopia while looking at the school chalkboard. Entering visual acuities were 20/15 in the right eye and 20/300 in the left eye. A +0.50 refraction in both eyes yielded 20/15 in the right eye and 20/20 in the left eye. With trial frame lenses, the patient reported that +2.00 lenses in front of both eyes made it clearer when looking out the window, as did –2.00 lenses. All binocular vision findings, including versions were normal. The patient reported that the double vision was now only in down and left gaze but no longer straight ahead. Ocular health was normal in both eyes. Upon questioning at the end of the examination, the mother reported that his older sister wears glasses and that the patient thought he would do better in school if he wore them also.

A final example was a ten-year-old girl who came in complaining of blurry vision

in both eyes. Unaided distance acuities were 20/70 in each eye. With Polaroid glasses, the girl easily read the 20/20 line with each eye.

While the malingering rates seemed quite high, it should be noted that that sample came from five to sixteen-year-olds presenting for ocular examination. Because some of the children were coming for examination secondary to complaining of or exhibiting "false" symptoms, this sample is not indicative of a random group of children between those ages. However, as an eye care practitioner, this group is characteristic of the pediatric patients seen in an optometric or ophthalmic office presenting for eye examination.

Malingering is a topic that spans far beyond ocular examination and into the realm of human psychology. There is more research available on malingering in general health examination, psychology and psychiatry than in ocular examination. More work on this subject needs to be performed in order to better understand the root of pediatric malingering in eye examination and how to effectively predict and detect it.

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