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“Gap Between Rich and Poor Extends to Visual Health in Amblyopia Treatment”

When thinking about treating children with lazy eyes, I am reminded of an old Buddhist axiom for dealing with suffering: see the problem, seek the cause, find the cure and apply the remedy. In the case of amblyopia or lazy eyes, physicians, optometrists, and parents see the problem, an eye drifting independently in the wrong direction. Even if parents are unaware, schools do visual screenings. They’ve already found the cause, the brain receiving a different image from each eye; naturally the brain chooses the clearer image, at the cost of the weaker eye, which suffers from disuse.

They even discovered more than one cure, atropine drops or an eye patch. By blocking the dominant eye with the patch or blurring its vision with the drops, the brain can be trained to use the weaker eye. As for applying the remedy, it varies depending on the age of the child and the severity of their visual problem, ranging from 2 to 12 hours of daily patching. According to *The American Academy of Ophthalmology’s* “Preferred Practice Pattern Guidelines, “ 2 hours daily for a child for an extended period with moderate amblyopia has been shown to improve visual acuity satisfactorily.

There is just one single catch; amblyopia is best resolved before age 8, which is a nice way of saying that it is often permanent if not treated before then. Children with untreated amblyopia lose vision acuity in their weaker and some stop using the weaker eye all together,

causing damage to their vision as a whole. They are also more likely to lose all their vision by accidentally injuring their good eye (The American Academy of Ophthalmology).

In the realm of research of amblyopia, though, I've noticed an elephant in the room. There are studies on when is best to screen children. There are studies on whether the patch or atropine drops are most effective. There are even studies on whether or not it is ethical to do studies because they entail control groups (children not being treated for amblyopia). Yet, there are stills studies desperately trying to make up for lost time and cure adulthood amblyopia.

I am inclined that there is something going awry in the simple system I laid out of finding a solution for the problem of amblyopia. By a wide margin, the most common reason is that families fail to comply with the treatment, not adequately applying the remedy (Lithander, Sjostrand). In other words, the treatment works but families don't use it, a phenomenon called noncompliance. There are a number of reasons why families don't comply, which were found to differ according to income. "Child removing patch, allergic reactions, and patch cost hindered low-income families, whereas short physician contact time and appointment difficulties hindered the high-income group."(Leenheer, Dunbar, Colburn, Edwards, Lim, Haugen) However, this study does not mention a greater disparity, not of reasons behind noncompliance but of noncompliance and subsequently unsuccessful cases. The title of an article from the American Association of Pediatric Ophthalmology says it all "Poverty Predicts Amblyopic Treatment Failure" (Hudak, Magoon) The authors rally up a number of statistics from their study to prove their point. They compared the results of children with amblyopia receiving Medi-caid and those with amblyopia, not receiving Medi-caid. "The likelihood for a good final visual acuity was 26.8% for the group receiving Medicaid and 58.4% for the group not receiving it" (Hudak, Magoon). Even worse, "the likelihood of a poor final visual acuity was 33.8% in the Medicaid

Comment [JA1]: I'm afraid this section comes off as too scientific and uninteresting . I want to maintain an editorial journalist type tone that is factual but doesn't put my reader to sleep. Any suggestions to make this a more fluid and readable section?

Comment [JA2]: As you might be able to tell, I've been having trouble managing all my sources which were primarily found online. Since I'm used to MLA for English papers, does anyone know what format would be better when referencing more scientific articles?

group versus 11.5% in the non-Medicaid group” (Hudak, Magoon) All this totals up to is that children who are better off (this study does not seem to account for those who are poor but not poor enough to receive Medicaid) are more than twice as likely to have successful results due to treatment and those who are poor are three times as likely to have bad results, despite treatment. Do low income children just have three times more severe amblyopia than their counterparts? I find that unlikely. Poverty does in fact predict the success of treatment. So the problem is not medical but sociological.

Consequentially, the problem requires measures from society to improve the situation. Hudak and Magoon suggest that perhaps funding for patches, drops and doctors’ visits would help even the disparity. That it is simply a matter of money. I would argue however that the problem is more complicated than that. In order to do so, I have to abandon the research articles and scientific facts and enter into the realm of personal experience and admit my own personal bias in the situation.

I am one of the lucky ones. I was diagnosed with severe amblyopia when I was a year old. At that time, my mother was a stay-at-home mom , and my father worked for the state, meaning we had decent insurance. My mother understood the risks of my condition and the treatment and she ensured my compliance, two activities certainly aided by the time she had and by her education level. When I was older, because of the severity of my condition, I had to wear the patch again. I was too young to appreciate the risks and became quite the little terror in avoidance of wearing my patch. Yet, despite much anguish (I was a devious child with a fondness of hiding) my mother persevered. My condition was resolved despite the severity of my amblyopia.

Eventually my mother went back to school, became a teacher, and received a job in inner city Lansing. She taught at a school that focused on remedial math and reading students. Among those students, she specialized in helping those who were the weakest readers; some of her students didn't know how to read from left to right or that the R from the Kids R Us sign is in fact backwards. Many of their parents were around the same age as her son in college. Of those students, she had a share of children with my condition but they were not so lucky. Some passed the age benchmark and were forced to live with loss of vision in one eye and the potential for more heartache. No one at my upper middle-class school had this problem.

The issue here is money but I don't think it's necessarily money for patches or doctor's visits, though would probably certainly help. People of middle and upper class incomes are often more able to devote the time and resources to ensure compliance. My mother had the time because she was a stay-at-home mom, and she could be a stay-at-home mom because she had the resources. Even working mothers, could pay a quality day care provider to ensure compliance. Lower income families may not necessarily have the time to devote to it. However, I think there's more to it even than that. If the problem for these lower middle class families as Leehner etc. suggest is that the child takes the patch off, why don't the parents make the child put it back on? Is it just a matter of not having the time to watch the child like a hawk? Or is it an education gap, where parents don't understand the necessity or method of the patch?

This is where money again comes to play, but not parent's money, but the government's. The economic impact of blindness from amblyopia is greater than realized. The median income for those with moderate disabilities is 3,000 dollars less than those without, not to mention how difficult it would be to work for those who end up losing all vision because of the vulnerability caused by this disorder. This becomes a total income loss of 23 billion annually (Gibson). With

such numbers in mind, if compassion doesn't appeal, money will. Government investment in programs that promote awareness, understanding, and methods for increasing compliance would save money in the long run.

As fond as I am of that old Buddhism axiom, I find it more and more insufficient. We see the problem of unequal treatment. We seek the cause and it manifests itself as one more consequence of the disparity between rich and poor, and the failure of the government to compensate and make America the land of opportunity It aspires to be. The cure though is a matter of intense debate right now, even if some won't even admit it as a problem. And as for applying the remedy, that's an even more fraught question.

Comment [JA3]: I'm afraid that this article goes to many places. I talk about amblyopia and its treatment in general, the influence of a wealth disparity, my personal experience and now here I am on my soap box about government intervention. It only gets worse in the last paragraph where I talk more about the disparity between rich and poor and government intervention. Do all these eyes mesh and flow well? Are there any points where it seems like I'm stretching or not supporting my argument enough? Keep in mind this is not an academic type essay but an editorial.

Sources (Tentative; Not Intended As a Bibliography)

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