

fact sheet

Trusting the evidence of our eyes

Four unavoidable facts about how cataract surgery improves lives

Based on two recent longitudinal cataract impact studies in Vietnam, the Philippines, Kenya and Bangladesh

VISIONARY: A multicentre prospective cohort study of quality of life and economic outcomes after cataract surgery in Vietnam: the VISIONARY study. *Issue BMJ*, Qiang L, Hackett ML, et al. *AAO j.opthal*, in press July 2014.

The Cataract Impact Study: The long term impact of cataract surgery on quality of life, activities and poverty: results for a six year longitudinal study in Bangladesh and the Philippines, Danquah L, Eusebio C and Kuper, H. s.et al Plosone 9(4):e94140 April 2014

EYE HEALTH IS A DEVELOPMENT ISSUE

- Cataract is a leading cause of blindness globally
- 20 million people are affected
- It has been estimated that half of all children who become blind die within two years
- For adults even in rich countries, blindness is associated with a reduced life expectancy
- In low-income settings, vision loss can increase the risk of dying almost seven-fold.
- Vietnamese recipients of cataract surgery reported that 17% fewer people experienced hardship in their daily lives after cataract surgery
- In Bangladesh there was a 27% increase in people regularly engaged in paid work and household duties and other unpaid work after cataract surgery
- In the Philippines there was a 25% increase in household monthly per capita expenditure one year after a household member having cataract surgery
- 6 years after cataract surgery, the gap in material assets between people who had surgery and the people who hadn't was almost entirely eliminated³

1 Cataract Surgery improves lives immediately especially for the very poor

A new study, titled VISIONARY, funded by The Fred Hollows Foundation and designed by The George Institute for Global Health, was conducted in Vietnam and shows that restoring sight by cataract surgery allows people to return to work and to help lift their families out of hardship and poverty.

The VISIONARY Study adds to the growing global evidence for the economic benefits of restoring sight through cataract surgery and complements the findings of the six year follow up to the landmark Cataract Impact Study across three low income settings; Bangladesh, the Philippines and Kenya. The Cataract Impact Study initially assessed

people's wellbeing while their vision was affected by cataract and then again, 12 months and 6 years after undergoing cataract surgery. The post-surgery follow-up showed improvements to people's finances, physical and psychosocial wellbeing.

The Cataract Impact Study baseline showed that, compared to people without vision impairment, people who had cataract in both eyes were:

- Poorer in terms of asset ownership and monthly expenditure
- Were more likely to need assistance and were less likely to engage in productive activities
- Had poorer health-related quality of life.

One year after undergoing cataract surgery, the situation for these people had improved compared to before surgery.

The VISIONARY study found that people living without indoor running water and toilet facilities were more likely to experience physical gains after cataract surgery. In other words the poorer you are the more benefits cataract surgery had in your daily life. This finding may point to an added value of eye sight for those whose home environment makes it more physically demanding for self-care, such as households that don't have indoor water and sanitation systems.

The cumulative effect of addressing vision loss for individuals translates to benefits at the individual, community and macroeconomic level. These benefits come from individuals and their families being better able to work and earn and therefore to save, spend, invest and pay taxes. The benefits of correcting vision loss in the developing world have been valued at four times its cost. For more details please see the completed reports at <http://www.hollows.org.au/our-work/research-innovation/investing-vision-reports>

2 Cataract Surgery has proven long-term benefits

The VISIONARY study found that one year after undergoing cataract surgery, people's perceptions of their quality of life had improved across a range of physical, social and mental health indicators. In other words the benefits of the surgery lasted over twelve months and this enabled families to pull themselves out of poverty. Not only do beneficiaries of surgery and their carers go back to work or school: paid and unpaid, but they are able to keep working. This means that not only does immediate wellbeing improve, people experience these improvements over time.

A validated quality of life health survey measured people's physical and social functioning and limitations, energy, vitality, pain and general self-perception of health. The VISIONARY results showed increases in all these areas and this finding was confirmed by the Cataract Impact Study which found six years after cataract surgery

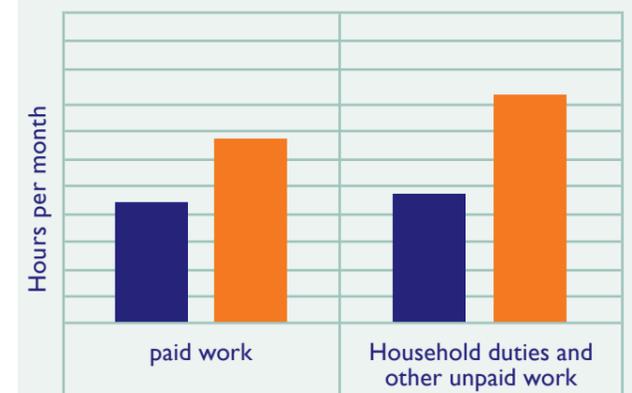
people's lives had improved to be on par with the people who hadn't had vision impairment when the study began. The Cataract Impact study also showed that cataract surgery closes the gaps in quality of life and economic situation between those with cataract and those who had not been affected by cataract. The gaps in work participation, need for assistance and monthly per capita expenditure had been closed within one year of restoring sight by cataract surgery and remained closed six years post-surgery.

By six years after cataract surgery The Cataract Impact Study found that people were still enjoying the benefits of cataract surgery and compared to baseline they:

- had a better health-related quality of life and improved perceptions of their own health
- were more likely to be involved in productive activities such as farming, paid work and household duties;
- needed less assistance for daily activities and had improved mobility and self-care
- Increased household expenditure within just one year of surgery and a longer term increase in asset ownership.

PRODUCTIVITY BEFORE AND AFTER CATARACT SURGERY

Key: ■ Before surgery ■ 12 months after surgery



3 Cataract surgery gets people back to work and out of poverty

The VISIONARY study in Vietnam found that within one year of having their sight restored by cataract surgery, there was:

- Reduction of 17% in the proportion of people experiencing hardship (66% down to 49%). Hardship is when a family is unable to pay for basic living expenses including rent, mortgage, telephone and electricity bills and medical care, or needed help to pay these expenses
- Increased participation in paid work per month by 45 hours a month; from an average of 90 hours per month before cataract surgery to 135 hours after surgery
- Doubling of hours in unpaid work per month from an average of 93 hours before cataract surgery to 183 hours after surgery. This means families had greater access to help with childcare, shopping, washing, cooking and cleaning and other daily unpaid tasks that keep families afloat.
- Increased annual median household incomes from US\$451 to US\$509 per annum
- A reduction by 7% of people experiencing unplanned expenditure on health care (13% of people before surgery compared to 6% post-surgery)

4 Cataract Surgery is good for individuals, whole communities and countries

Both these studies showed cataract surgery as a clear option for governments to invest in poverty reduction. The findings echo a strong research base found in the Investing in Vision Report by Price Waterhouse Coopers – Australia which found that for every dollar invested in eliminating avoidable blindness and visual impairment, in developing countries, four dollars of benefits are returned. This is because of the increased productivity of individuals, their carers and the spill over into broader economic activities.

The VISIONARY study provides a strong overview of these benefits one year on and the 6 year follow up to the Cataract Impact Study gives us concrete examples of the benefits of cataract surgery six years after it was performed. Here are three examples.

In Bangladesh

Prior to cataract surgery, people affected by cataract were:

- 6 times more likely to need assistance with daily activities, compared to people not affected by cataract.
- Much less likely to participate in productive activities (paid work, household duties or unpaid work): 61% compared to 97% of people not affected by cataract.
- More than 3.5 times more likely to have problems with self-care.
- Poorer, with average monthly household per capita expenditure around half the amount of people not affected by cataract

In the year following cataract surgery there was a:

- 54 per cent increase in monthly per capita expenditure.
- 27 percent increase in people regularly engaged in productive activities (paid work, household duties and other unpaid work); rising from 61 per cent to 88 per cent.

The benefits of rising incomes are long-lasting:

- 6 years after cataract surgery, the gap in material assets between people who had surgery and the control group was almost entirely eliminated.

In the Philippines

Prior to cataract surgery, people affected by cataract:

- Were 3 times more likely to need assistance with daily activities, compared to people not affected by cataract.
- Were more than 5.5 times more likely to have problems with self-care and 2.5 times more likely to have problems with daily activities
- Poorer, with average household per capita expenditure nearly US\$8 less per month per person compared to people not affected by cataract

In the year following cataract surgery there was a:

- 25 per cent increase in monthly per capita expenditure.
- 17 percent increase in people regularly engaged in productive activities (paid work, household duties and other unpaid work); rising from 80 per cent to 94 per cent.

The benefits of rising incomes are long-lasting:

- 6 years after cataract surgery, the gap in material assets between people who had surgery and the control group was almost entirely eliminated.

In Vietnam

The VISIONARY Study explored the cost of cataract surgery, out-of-pocket health expenditure and the interplay with the different models of health insurance. Initial study results show that in the 12 months after cataract surgery, the proportion of people experiencing unplanned, unbudgeted for health expenditure had fallen by 7% compared to the period before surgery. The study also shows that out-of-pocket costs of surgery were highest among the poorest, despite high rates of health insurance coverage. Further analysis on the cost data will be released by the study authors at a later date.

About the VISIONARY study

The VISIONARY Study was funded by The Fred Hollows Foundation and commissioned from the George Institute for Global Health and was jointly coordinated together with The Foundation's staff in Vietnam and Australia.

The study was conducted during 2011-2012 at health centres and outreach clinics in four provinces of Vietnam: Hue, Binh Dinh, Vinh Long and Tahi Binh.

The study included a pre-surgery baseline survey, 6 month and 12 month follow-up survey. The intention had been to analyse a control group of people who were affected by cataract, who did not undertake cataract surgery after the baseline. However, almost all of the participants (96%) who stayed in the study had undergone cataract surgery within 6 months of the baseline, thus ruling out a control group for the study.

The study was conducted in eye health clinics and among people attending outreach screening programs run by the clinics. Most patients who attended the eye health clinics underwent phacoemulsification surgery which is common in Vietnam (89%) while most of those who attended the outreach screening

programs underwent extracapsular cataract extraction (82%). The type of surgery will be explored further with the future release of the study findings on cost of surgery.

About The Cataract Impact Study

The Cataract Impact Study was a longitudinal study involving three survey points: baseline, one year follow-up and this latest six-year follow-up. The baseline and one year follow-up were undertaken in one district in Kenya (Nakuru) and Bangladesh (Satkhira) and two regions in the Philippines (Negros Island and Antique district).

Across the three countries approximately 700 people aged ≥ 50 years with visual impairment from cataract (visual acuity $< 6/24$ in the better eye) were identified in their communities. For each participant with cataract, another person of the same age and gender but without vision impairment was included as a comparison. The study participants were interviewed about their health-related quality of life, their participation in different daily activities and their household economic situation. People with cataract were offered free or subsidized surgery. After one year the study participants were re-interviewed. In Bangladesh and the Philippines a six-year follow up was also undertaken, and funded by the Fred Hollows Foundation.

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