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Research Management Cell, Butwal Multiple Campus, Tribhuvan University, Nepal

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## **AGE AND SEX: THE DEMOGRAPHIC FACTORS MATTER IN SIGHT CARE TREATMENT DECISION IN NEPAL**

**Durga Bhusal**

*Assistant Professor*

*Butwal Multiple Campus, Department of Population Studies, Tribhuvan University, Nepal*

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### **ABSTRACT**

Even though existing philosophy advocating patients should be active partakers in treatment decision-making about their care, the literature suggests that patients require be informing but not involving. Eyesight treatment-decision of the participants involving free Eye-Care-Camp in a one-day free Eye-Care-Camp organized by Krim Samaj with the technical support of Tamnagar Chasma Ghar were considered with 91 responses. Two technical officers checked up the eye conditions. On the Treatment Decision-Making, they overwhelmingly wished to be performed by the technical officers. Near and free service was a most influencing factor for the treatment decision. Age significant result regarding eyesight care treatment-decision was appeared in the study. Although the treatment decisions of patients were autonomous up to the participation in free eye care camp, few wishes to hand over the treatment decision-making control to their technical personalities. The findings suggested that choices are not free but controlled under the technical officer, and household decision. Hidden serious eye problems not exhibited in household got the chance to disclose and the patients got the idea what to do further.

**Keywords:** Amblyopia, Eye-care-camp, Eyesight care, Retinopathy, Treatment-decision.

### **INTRODUCTION**

Likened to many other optimization problems, optimization of treatment-decision for eye care often involves a relatively small but important set of feasible interventions through private sectors. Latent and lively eyesight problem can be detected through different tests based on changing sensitivity and specificity, and different tests may be chosen in different power of spectacles in the free eye care camp. Individuals passed through various health

and treatment states are participated in the restriction of age limit. Low vision reduces the ability required to perform activities and the loss of the vision is permanent based on its function (Thapa et al., 2014). Then it can be said that the visual insight that is remediable is not under the circle of low vision.

This study occurred in the eyesight care camp that was conducted as continuation of the practice that has been widely occurring in Nepal. To find the visionary problem, screening is the useful preventive measure for the retinal diseases in the eye-camp. Loose interest, either lack or delayed, of Nepalese for health care services has kept them in underutilization of the eyesight care services (Shrestha et al. 2014). Some genuine cases not checked-up ever before, and needed instant hospital treatment were appeared in the camp. The aim of the one-day camp was to help the needy persons who wants to grasp the opportunity, to familiarize the newly established Krim Samaj, which ultimately helped for business promotion of the service provider- Tamnagar Chasma Ghar.

Age-related macular degeneration (AMD), diabetic retinopathy (DR), hypertensive retinopathy, and retinal vein occlusion are the major retinal problems in Nepal (Shrestha et al. 2020). Advancement in technology and equipment facilities has improved and twisted the sight care treatment-decision even in our developing country, Nepal. Nowadays, even public with lower economic background deny the traditional treatment ideas come from cultural practice. General people are aware of the requirement of the timely decision to identify the health problem. This article attempts to identify whether the participants in free eye care camp matters with age and sex for their treatment decision. In this article, author reviews the existence of the eyesight problem, discuss the need of eyesight care camp, and stresses the stimulating aspects-treatment decision of this problem. It provides a brief overview of simulation and then discuss whether age and sex demographic factors matter in the decision. Free eyesight care one-day camp became effective based on cost-free problem identification and minimization of travel difficulties.

## **LITERATURE REVIEW**

Age related eyesight problem is common in Nepalese society. For the purpose of treatment decision, sex factor in Nepalese community can play a vital role. The commonness of eye health problems particularly blindness in Nepal was reflected through the Nepal Blindness Survey- 1981, which was the first attempt to show promotive and preventive dimensions of the sight care services carrying curative ones (Shrestha et al.

2014). Twenty years plan to avoid blindness mainly caused by trachoma through the slogan 'right to sight' in Nepal was programmed in 1999 (Mishra et al., 2019).

Selected literatures concentrated on the following errors and diseases, which were the eyesight problems that were under identifying capability of the expert in the camp.

**Refractive Errors.** In the absence of properly focused light, it causes blurry vision. Spectacles for external use, contact lenses, or surgery are the resolution way to correct the condition worsen by refractive errors. Faraway objects look blurry in myopia (nearsightedness); closed-up objects look blurry in hyperopia (farsightedness); the defective shaped cornea is the cause not to direct light into the eye to result blurry vision in astigmatism; aging increases the rigidity of the lens of the eye and results farsightedness in presbyopia. (<https://www.healthline.com/health/eye-health#refractive-errors>).

**Cataract.** Aging, malnutrition, UV-B radiation, diabetes, dehydration, and steroids are the dimensions of the Cataract problem. Clouded lens is the result of cataract and is removed by surgery to put in artificial lens (Toh et al., 2007). Worldwide visual loss due to Cataract is the most dominant eye infection (Hyman, 1987).

**AMD.** Macular cells' degeneration commonly suffers senior citizens. Presence situation of blood vessels in the retina decides AMD being wet or dehydrated forms (Ambati & Fowler, 2012).

**Amblyopia.** It is acknowledged as lazy eye having undeveloped vision, and the brain initiates for better vision. Amblyopia, the eyesight problem of poor vision appearing in children upsets roughly three percent of the population and 1.2 percent results in permanent visual loss (Webber & Wood, 2005).

**Diabetic Retinopathy.** Diabetic problem damages the blood capillary at the retina results diabetic retinopathy. The evidence of retinopathy appeared to almost all before first 30 years of life after diabetes mellitus has been present for 20 years, and about half have proliferative retinopathy. Retinopathy becomes the first symptom of diabetes in the people aged 30 years or more who are at lower risk. Insulin requiring diabetic older persons are in higher risk of retinopathy than those diabetic patients not requiring insulin. Retinopathy observed in 20 years duration reflects the result of eighty percent patients who were older in age requiring insulin (Ferris et al., 1999).

**Retinal Detachment or Tear.** Detachment of retina is the condition of separation of the layer of retina from the back of the eye. The treatment of this problem should be as sensitive as medical emergency. Vision may be blurry or partial or complete loss in this problem. Retina cannot send the visual messages through the optic nerves to the brain (Michel et al., 1990).

**Hypertensive Retinopathy.** Destruction of the blood capillaries due to high blood pressure prohibits the proper function of retina giving pressure to the optic nerves to cause vision problem. Risk stratification based on retinal examination is not clear agreement for its practicality (Wong & Mitchell, 2004).

**Retinal Vein Occlusion.** Clotted blood or narrowed veins cause the retinal vein occlusion. Diabetic people, people with high blood pressure, high cholesterol, and having health problem affecting the flow of blood are the host of this problem. Up to 2 percent people, having age more than forty years experiences Retinal-Vein Occlusion (Wong & Scott, 2010).

**Dry Eye Syndrome.** Side effect of certain medication, tear ducts or eyelid problems cause the lack of tears in the eyes. This condition of dry eye can cause pain and blurry vision. Aqueous tear deficiency and evaporative dry eye are the two categories of dry eye condition (Horwath-Winter et al., 2003).

**Glaucoma.** The set of eyesight conditions represented by damage of optic nerves. Permanent blindness happens because of high pressure into eyes, diabetes, eye wounds, and non-active life style in Glaucoma. Advanced deterioration of ganglion cells in retina characterizes it. Nearly ten percent among Glaucoma affected are bilaterally blind which reflects it as leading cause (Weinreb et al., 2014).

**Epiphora or Tearing.** There is no age limit for the advancement of this problem, but infants and senior citizens are more likely to be victimized. It may affect one or both eyes. The blockage of tear tubes and large amount of tear creation are two main causes of watering eyes (Robinson et al., 1993). Lacrimal gland makes tears that keep eyes lubricated and help to wash away foreign particles. One of the key roles of tears is as a component of body immune system that protect against infection. Extremely dry eyes resulting irritation can cause to produce excess tears. Demographic aging trend in the world shows the increasing life expectancy at birth with continual increment of epiphora affecting quality of life (Shin et al., 2015).

Most of the studies concentrated on identifying the problem identification and measures of the remedy. Effect of age and sex, demographic factors, in treatment decision in the Nepalese context seems to be a gap for the study. Happy and healthy longevity particularly for elders is knocking on the door of public health for eyesight awareness programs (Chalise et al., 2020). The Right to Sight, an international initiative, highlights the problem of low vision as a critical public health problem (Thapa et al., 2014). The main aims of the free sight care camp were to increase awareness about the need for timely treatment of visual problems. Advancement of the beauty of community collaboration need to promote the treatment decision in community services was the knowledge claim of this study.

## **RESEARCH METHODOLOGY**

The current study was a cross-sectional survey of patients participated in a free sight care camp organized by Krim Samaj along with the Tamnagar Chasma Ghar living in Butwal Submetropolitan City, ward number 12, Tamnagar. Patients and non-patients were requested to grasp the opportunity. Instruments used by technical officer to examine and detect the eye sight condition of the participants were torch light, ophthalmoscope direct, retinoscopy, tonometer, schizoid, and binocular slit lamp. Camp record of participation was drawn through a participatory approach. 91 participants were observed. To determine the treatment decision-maker, all were asked, how did you reach to this treatment-decision? Demographic characteristic-Sex- as the independent variables. Mixed method was carried out by associating participatory study for qualitative component and survey interview for quantitative component. The self-participated researcher gathered the necessary information from the one-day camp. Data were examined using frequency distribution tables and correlation. Respondents of the study provided informed consent through oral wording. Software SPSS 20 was used to analyze the data collected.

## **RESULTS AND DISCUSSION**

Seven to eighty-four years' respondents were involved there to take the health service detecting eyesight condition and knowing necessary direction of treatment information. The respondents were with the average age 45.4 years and a standard deviation 18.69 years. There was the female dominated sex proportion of the participants, where 34 (37.4%) were

male and 57 (62.6%) were female. Three broad age groups and gender wise separation of information for the respective cause of treatment-decision is presented in Table 1.

**Table 1:** Treatment decision to participate in the free sight care camp

Causes of treatment-decision	Age group by sex (Column percent)								Total
	Children		Working aged		Senior citizens		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	
Organized by Krim Samaj	0	1 (12.5)	13 (48.1)	9 (26.5)	0	0	13 (38.2)	10 (17.5)	23 (25.3)
Experienced doctor	0	0	2 (7.4)	4 (11.8)	0	1 (6.7)	2 (5.9)	5 (8.8)	7 (7.7)
Advice of family	1 (100.0)	7 (87.5)	1 (3.7)	1 (2.9)	0	5 (33.3)	2 (5.9)	13 (22.8)	15 (16.5)
Free service	0	0	5 (18.5)	6 (17.6)	1 (16.7)	4 (26.7)	6 (17.6)	10 (17.5)	16 (17.6)
Near service	0	0	3 (11.1)	6 (17.6)	0	1 (6.7)	3 (8.8)	7 (12.3)	10 (11.0)
Near and Free	0	0	3 (11.1)	8 (23.5)	5 (83.3)	4 (26.7)	8 (23.5)	12 (21.1)	20 (22.0)
Total	1 (100.0)	8 (100.0)	27 (100.0)	34 (100.0)	6 (100.0)	15 (100.0)	34 (100.0)	57 (100.0)	91 (100.0)

*Note.* Despite the respondents responding the cause of treatment-decision as due to organized by KRIM SAMAJ, all the responses were from the female dominated participants.

The members of the KRIM SAMAJ responded their participation as organizer however free service available near the house of respondents was the main cause of participation rather than their eyesight problem as shown in Table 1. This shows that free camp matters in the community. Treatment-decision of female senior citizens seemed more prone to get checked the eyesight condition, and they are more trusted to the service of technical officer.

### Regression analysis

Treatment decision was categorized into six groups- organized by Krim Samaj, doctor, family advice, free service, near service, and near and free service. Multinomial Logistic Regression model was significant with final model [ $\chi^2 (10) = 27.263, p = 0.002$ ]. Pseudo R-square for Cox and Snail 0.259 and Nagelkerke 0.267 prevailed the variability 25.9 percent to 26.7 percent.

**Table 2:** Multinomial logistic regression between treatment-decision and predictors

Cause to decision <sup>a</sup>	Predictor	B	Wald	p	e <sup>B</sup>	95% Confidence Interval for e <sup>B</sup>	
						Lower Bound	Upper Bound
Doctor	Age	0.035	1.848	0.174	1.036	0.984	1.090
	Male	-1.323	1.924	0.165	0.266	0.041	1.727
Family advice	Age	-0.008	0.146	0.702	0.993	0.955	1.032
	Male	-2.083	5.634	0.018	0.125	0.022	0.696
Free service	Age	0.049	5.460	0.019	1.051	1.008	1.095
	Male	-0.933	1.778	0.182	0.393	0.100	1.551
Near service	Age	0.042	3.215	0.073	1.043	0.996	1.093
	Male	-1.264	2.311	0.128	0.282	0.055	1.442
Near and free service	Age	0.064	8.932	0.003	1.066	1.022	1.111
	Male	-0.825	1.511	0.219	0.438	0.118	1.633

a. The reference category: Organized by Krim Samaj.

Table 2 reveals that male only in family advice category was significant but negative regarding treatment-decision. However, age in free service, near service, and near and free service categories was significant positively. The most influential cause to the eye-sight free camp participation was near and free service where one unit of age in the 'near and free service' relative to 'organized by Krim Samaj' increment resulted 1.07 times more likely to take the treatment decision.

This study is the first kind to collect information from free camp about treatment decision on eyesight care. A reduced amount of access of females to eyesight care (Shrestha et al., 2012) matches this study on gender inequality but differs the finding of the previous study with this in the access of the females to involve. Only 34 males were there among 91 participants of this study. Sixty-seven percent participants were from working age category while old aged presence was 23 percent and remaining were children. The main approach of this limited study was the attempt of social integration and collaboration to reduce the eyesight problem in the low-income country Nepal.

## CONCLUSION AND IMPLICATION

The all-embracing campaigns are required to encourage and raise awareness in the community. Active community members have to maintain energetic community

involvement and encouraged collaboration with community activities. Eye centers like Tamnagar Chasma Ghar can serve the community services to alarm the public problems requiring treatment decision. This strategy will help in the primary recognition of sight problem and in timely reduction of probable visual impairment. Rebuttal: Service provider felts that free service out of the campaign leads to lighten the value of identification of the eyesight condition and to keep the professional weight progressive. However, participants were not obeying the suggestion fully because of mainly two causes, one due to lack of money and familial consensus, and other due to less belief to the technical officer in the absence of motivation that the officer had the proper capability to handle the issues. Most of the participants listened the suggestions carefully and put the mild refutation for the instant treatment on the suggestion whether to wear the spectacles, or use of medicines, or needs of surgery. Some participants ordered the spectacles but did not come into contact to receive. The free service eye-care-camp was become as the center of crosschecking opportunity in one side, and hidden serious problems were disclosed which led the participants to think and take necessary step of treatment onwards in other side.

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