

AN EVALUATION OF THE EFFECTIVENESS OF VOLUNTEER COMMUNITY HEALTH WORKERS IN VISUAL ACUITY SCREENING AMONGST RESIDENTS AGED 40 YEARS AND ABOVE IN BERANANG, SELANGOR.

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ABSTRACT

A cross-sectional study on a household member aged 40 years and above from households of 5 randomly sampled villages in Beranang, Hulu Langat Selangor between August 2000 to December 2000 was carried out to determine the effectiveness of volunteer community health workers in performing visual acuity screening as well as the prevalence of visual disabilities. It was found that the sensitivity and specificity of visual acuity screened by volunteers was 92.9% and 97.5% respectively when compared with health personnel. The prevalence of low vision was 21.5% with the majority (55.4%) of those with low vision having cataracts.

ABSTRAK

Satu kajian keratan-rintas keatas seorang ahli isirumah yang berusia 40 tahun dan keatas daripada lima buah kampung yang dipilih secara rawak di Beranang, Hulu Langat, Selangor diantara Ogos 2000 sehingga Disember 2000 telah dilakukan untuk mengenalpasti keberkesanan sukarelawan masyarakat dalam melakukan penyaringan akuiti visual serta juga menentukan prevalens masalah penglihatan Kepekaan dan kekhususan penyaringan akuiti visual oleh sukarelawan adalah 92.9% dan 97.5% jika dibandingkan dengan kakitangan kesihatan. Prevalens kurang penglihatan adalah 21.5% dengan majoriti (55.4%) mengalami katarak.

INTRODUCTION

Visual disability is one of the current health problems in Malaysia . The Ministry of Health (1996) has estimated the prevalence of blindness to be 0.28% (55,000) if blindness is defined as inability to count fingers at the distance of 3 metres . The number with low vision is 2.4% (450,000) with the majority due to cataract. The rapid economic development with the concomitant rise in the life expectancy have resulted in degenerative eye diseases taking over eye problems secondary to nutritional deficiency. The leading cause of visual disability in Malaysia is cataract with 50% of all cases admitted to government hospital being due to cataract .The number of cataract cases admitted to government hospitals have increase from 9376 in 1994 to 11,726 in 1996. Until middle of 1998, it was estimated that 22,000 of cataract cases had become blind and 190,000 had low vision. (Ministry of Health 1996). It is therefore timely that a programme to detect visual defect amongst high risk groups could be carried out so that early intervention could be introduced. This study was carried out to determine the effectiveness of a core group of volunteer community health workers in visual acuity screening of individuals 40 years and above in the 5 chosen villages in the subdistrict of

Beranang, Hulu Langat, Selangor. It was also aimed to determine the prevalence of visual problems and factors influencing such prevalence.

METHODOLOGY

This was a cross-sectional study carried out between August 2000 to December 2000 to determine the effectiveness of volunteer community health workers in the screening of visual defect. Out of 12 villages in Beranang, a total of 5 villages were chosen randomly. A member aged 40 years and above from each household of the chosen villages was invited for visual acuity screening at the eye clinic . Basic data of all respondents aged 40 years and above were recorded in a pre-tested questionnaire by trained interviewers. Data on diet, medical and eye problems as well as social habits were further elicited using the same standardized questionnaire. The respondents was screened their visual acuity by volunteer community health workers and the result of the screening test was confirmed by health personnel. Individuals with low vision were requested to thus differentiate myopic disorders. Visual acuity was determined using the Snellen Chart with the respondent standing 6 metres from the chart. Failure to read more than half of the letters in a particular row designated the result of the Snellen Chart reading. Low vision was defined as visual acuity of less than 6/18 and better than or equal to 3/60 in the better eye using available means of correction while blindness was visual acuity of less than 3/60 in the better eye using available means of correction. Following screening of visual acuity,

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individuals would have their eye examined by Medical Officers to look for various eye pathologies. The collected data were processed and analyzed using the SPSS software.

RESULT

A total of 24 volunteers were trained on visual acuity screening using Snellen Chart before they were allowed to perform visual acuity screening on the respondents. The visual acuity findings on respondents by these volunteers were compared with that of the health personnel visual acuity screening result as the gold standard result.

Table 1 shows the result of the screening test. The sensitivity and specificity of visual acuity screened by volunteer community health workers was 92.9% and 97.5% respectively as compared to health personnel.

Out of 811 individuals 40 years and above from 5 villages who were invited to be screened at the eye clinic held at the Community Hall, 260 (33.3%) responded. A total of 122 males and 138 females participated in the survey. The mean agegroup for males was 60.9 years while that for females was 56.4 years.

Out of 260 respondents 56 (21.5%) were found to have low vision and of those with low vision 31 (55.4%) were found to have cataract, 2(3.6%)

cataract with pterygium and 23 (41.1%) with myopia

Fig. 1 shows the distribution of respondents by eye problem and gender. The 260 respondents were given the option to respond to one or more than one eye problem. More females than males claimed to have eye problem. A higher number of respondents had difficulty seeing near objects (180) as compared to those who had difficulty seeing far objects(141). Short sightedness, long sightedness and blurring of vision were the three most commonest eye problem experienced by the respondents.

Fig. 2 shows the distribution of respondents by the type of corrective and preventive measures they have undertaken. Out of 122 male respondents 70 (57.3%) said that they had to work under the sun, while 36 (26.1%) of female respondents usually worked under the sun. There was a significant difference ($p < 0.05$) between the proportion of males to females who had to work under the sun. Only a significantly ($p < 0.05$) small proportion of males (13.9%) and females (2.9%) wore sunglasses while working under the sun. A total of 38 (31.1%) male and 30 (21.7%) female respondents wore wide brimmed hats while under the sun. More males (58.2%) than females (52.8%) had undergone an eye examination and a higher percentage of males (5.7%) had undergone an eye operation compared to females (2.9%). A total of 62.3% of males and 58.7% of females had worn corrective eye glasses while 2 males and 10 females wore contact lenses.

Table 1: Visual Acuity Screening Result Performed by Volunteers and Health Personnel

Result from Volunteers	Result from Health Personnel		Total
	Low Vision	Normal	
Low vision	52 (92.9%)	5 ((2.5%)	57 (21.9%)
Normal vision	4 (7.1%)	199 (97.5%)	203 (78.1%)
Total	56(100.0%)	204 (100.0%)	260 (100.0%)

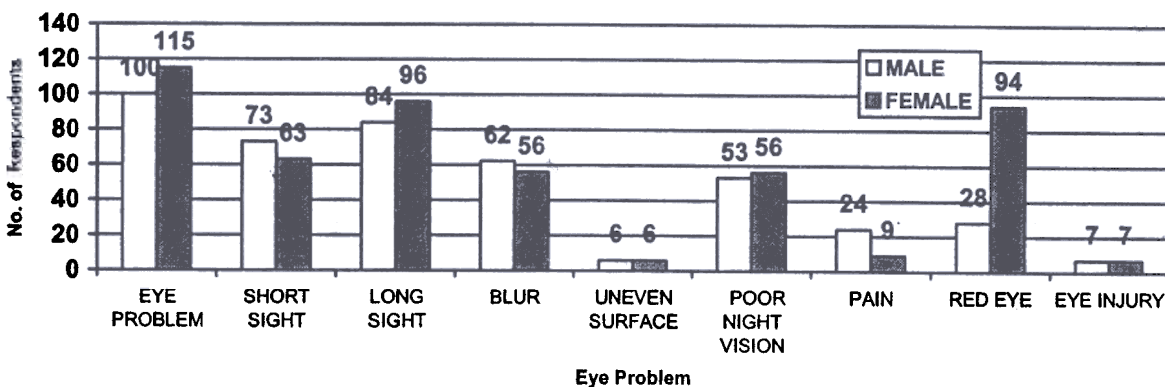


Fig. 1: Distribution of Respondents By Eye Problem and Gender

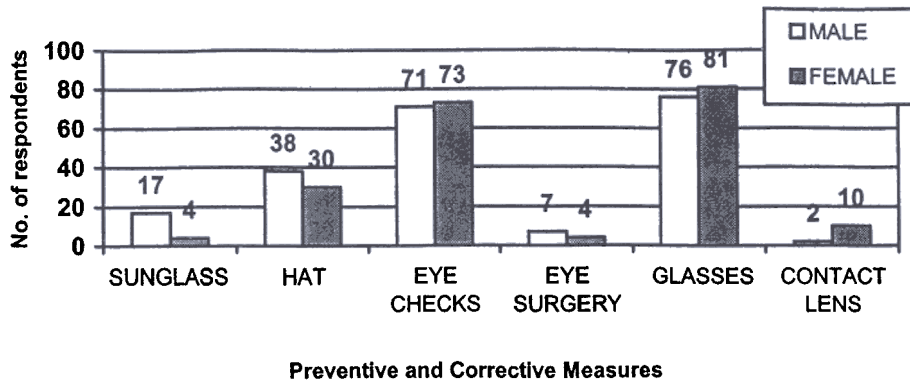


Fig. 2: Distribution of Respondents by Type of Preventive and Corrective Measures Taken

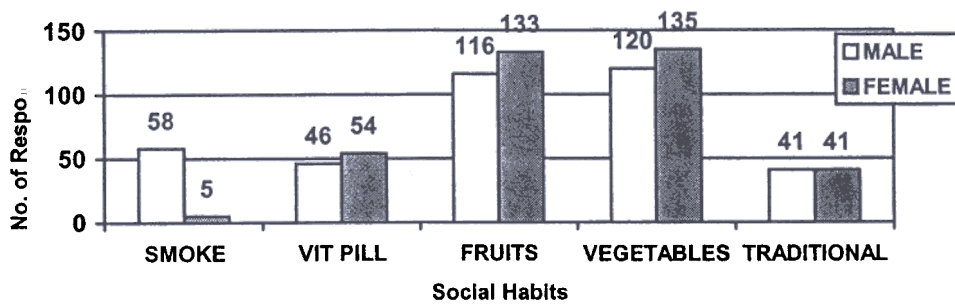


Fig. 3 : Distribution of Respondents By Social Habits

Fig. 3 shows the distribution of respondents by social habits. A total of 58 (47.5%) of males and 5 (3.6%) of females are smokers. The duration of smoking ranged from 2 years to 63 years. A total of 46 (37.7%) males and 54 (39.1%) females took vitamin pills routinely with frequency of intake ranging from once a week to everyday in a week. An almost equal number of males (95.1%) and females (96.4%) ate fruits with the frequency of intake ranging from once a week to everyday in a week. A high percentage of males (98.3%) and females (97.8%) ate vegetables and vegetables were eaten almost everyday. Out of 122 males, 41 (33.6%) took traditional medication while 41 (29.7%) women consume traditional medicine. The majority took roots of medicinal plants routinely.

4. Discussion and Conclusion

The high screening sensitivity and specificity by volunteers using the Snellen Chart showed that volunteer community health workers had the capacity to perform simple screening procedures if properly trained. Volunteer community health workers could work hand in hand with health personnel towards total health care for the community. The utilization of volunteers in health care of the community is not new and have been shown to be successful in many southeast Asian countries (Grant 1986, Nakamura & Siregar 1996).

The use of volunteer health workers had been a subject of intense debate across many developing nations. Jancloes (1984) question the performance of volunteer health workers in the improvement of the health status of the community. The impact of volunteer health workers on the overall health of the community had varied outcomes in various communities. However, many studies have shown the benefits volunteer health workers bring to the community (Reis et al 1991).

In many societies where poverty prevails, the community did not regard health as their priority. Mobilizing the community being responsible towards their own health is a preliminary step towards community participation in health care. The amount of interest generated by the Beranang community towards their own health care had been beyond the authors anticipation and with their ability to learn basic eye screening tool would thereby further enhance community participation in health care in the Beranang sub-district.

A total of 21.5% of respondents had low vision and this exceeded the prevalence of low vision found in the National Eye Survey, 1996 (Ministry of Health 1996). The rate of low vision in the National Eye Survey was 2.4% with the majority being due to cataract. This could be due to the fact that only those

with eye problem came for eye screening while others who did not think they had eye problem decline to participate in this study. The majority of cases with low vision in this study was also due cataract.

In a study on blindness and low vision by Negrel et al (1996) in Turkey it was found that the prevalence of low vision was 1.5% while that for blindness was 0.4%. The majority of the subjects with low vision was due to cataract. In another study in India (Singh et al 1997), the prevalence of low vision was 32% amongst the adult population. In a National Survey carried out in Lebanon, the prevalence of low vision was found to be 3.9% (Mansour et al 1997). Although the prevalence of low vision in most societies are low, however, the prevalence tend to increase with age with cataract being the main contributor of low vision and blindness. In the study by Gray (1996) amongst elderlies residing in Tower Hamlets, it was found that the prevalence of low vision was 24.6%.

The high rate of low vision in Beranang amongst those 40 years and above had emphasized the fact that visual acuity screening is much warranted within the community in a rural area. The presence of volunteer community health workers within the community had reduce the necessity for elderly people to travel long distance to hospitals and health centres for visual acuity screening.

RECOMMENDATION

It is thereby recommended that through the help of health agencies the community should be mobilize towards their own health care. With the likelihood of more young people leaving the rural area leaving behind their elderly parents, it is highly recommended that a volunteer health body should be organized at every village level. This would in general help to improve the health status in the community and at the same time special health activities could be focus on target groups. Hidayah (1998) suggested a plan of action for a nation-wide health volunteer movement with the Ministry of Health being responsible in overseeing the whole project. There is a need to evolve strategies for reducing the burden of ocular diseases amongst the older agegroups by improving geriatric health care at the community level. In a study by Long et al (1991), it was recommended that routine assessment of elderly persons should include objective screening of their visual acuity.

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REFERENCES

- Grant,PJ. 1986. State of the World's Children .Oxfordshire.Oxford University Press.
- Gray, PJ.1996. The prevalence of eye disease in elderly Bengalis in Tower Hamlets. *J R Soc Med.* 89(1):23-6.
- Hidayah, NI.1998. An evaluation of the effects of a primary health care intervention programme on the risk factors related to soil-transmitted helminthiasis in children four years and below in Kelantan.Thesis presented to the University of Malaya for the Doctor of Medicine Degree .
- Jancloes, M. 1984. Could villages do better without their volunteer health workers.*World Health Forum.*5 (4):296-300.
- Long,CA.,HoldenR.,Mulkerrin,E&Sykes,D.1991.Opportunistic screening of visual acuity of elderly patients attending outpatient clinics.*Age Ageing.*20(6):392-5.
- Mansour, AM.,Kassak,K.,Chaya,M., Hourami, T et al. 1997.National Survey of blindness and low vision in Lebanon.*Br J Ophthalmol.*81 (10):905-6
- Ministry of Health.1996.Estimates from the National Eye Survey.Kuala Lumpur. Ministry of Health.
- Nakamura,Y&Siregar,M.1996.Qualitative assessment of community participation in health promotion activities. *World Health Forum.*17(4):415-417.
- Negrel,A.D.,Minassian,DC&Sayek,F.1996. Blindness and low vision in southeast Turkey.*Ophthalmic Epidemiol.* 3(3):127-34
- Reis,T.,Elder,J.,Satoto,Kodyat, BA et al.1991. An examination of the performance and motivation of Indonesian village health volunteers. *International Quarterly of Community H. Education.*11(1):19-27
- Singh,MM., Murthy, GV., Venkatraman,R ., Rao, SP et al.1997. A study of ocular morbidity among elderly population in a rural area of Central India. *Indian J Ophthalmol,* 45(1) :61-5