ORIGINAL ARTICLE

THE LEVEL OF KNOWLEDGE, ATTITUDES AND BEHAVIOR REGARDING CATARACTS OF THE ELDERLY AROUND THE PRIMARY CARE CENTER SEMARANG

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ABSTRACT

Introduction: Cataract is the major cause of reversible blindness and visual impairment in developing countries. It has been assumed that there is poor access to information related to the cause, prevention, and treatment of cataracts in developing countries. There is also a paucity of data on knowledge, attitude, and behavior toward cataracts in Semarang.

Objective: To determine the Knowledge, Attitudes, and Behavior Regarding Cataracts of The Elderly around the Primary Care Center Semarang

Method: A community-based cross-sectional study was conducted among 40 participants in November 2019. The study participants were selected by a simple random sampling method. Data were collected with a structured questionnaire by using face-to-face interviews. The data were entered into Microsoft Excel 2016 and analyzed using Statistical Package for Social Sciences (SPSS) version 25. The level of statistical significance was set at a p-value less than 0.05. The Socio-demographic factor as Gender, Age, Education, Occupation, and Income set as independent variable in this study.

Result: There were 40 respondents, based on questionnaire data 52,50% of respondents had good knowledge, 85% had a good attitude, and 60% had poor behavior. The Education and Knowledge (p=0,001), Education and Behavior (p=0,004), Knowledge and Behavior (0.57749p>0,5, Gender, Education and Income (p>0,05), Education and Income (p>0,05)had positive significant on the variables.

Conclusion: A Good approach strategy is needed to achieve to increase public Knowledge, Attitude, and Behavior like doing health promotion periodically and improving health care performance, and facilitate their availability in primary care.

Keywords: cataract, knowledge, attitude, behavior, elderly

INTRODUCTION

The most recent WHO estimates on the global magnitude and causes of visual impairments confirm a major opportunity for change in the lives of millions of people: 80% of all causes of visual impairment are preventable or curable.[1] In 2015, there were an estimated 253 million people with visual impairment worldwide.[2] The latest data on the prevalence of visual disturbances through the Rapid Assessment of Avoidable Blindness (RAAB) survey in 15 provinces in the 2014-2016 period. RAAB is a method of reading data on blindness and visual

impairment aged 50 years and over as seen by WHO, through the 2014-2019 Global Action Plan (GAP). Of the 15 Provinces that conducted the RAAB survey, the Ministry of Health through the Health Research and Development Agency (Litbangkes) had full funds in 12 provinces. From the results in 15 provinces, the prevalence of blindness in Indonesia is 3.0%. By province, the prevalence of blindness in the population in Central Java is 2.7% with a cataract percentage of 73.8%.[3]

A cataract is any clouding or opacity of the eye's lens, which can result in increased scattering of light. Lens opacity can result from the separation of protein process, the aggregation of proteins, or the disruption of the fiber cells' regular alignment or packing. It can be due to congenital, developmental, and acquired causes. Symptoms of cataracts are blurred/reduced vision, cloudy vision, glare, seeing haloes around light, and inability to see in dim light. The most common factors identified to influence cataract development are increasing age, sunlight (UV) exposure, trauma, smoking, steroid use, and genetics.[4,5]

According to Notoadmojo's definition knowledge is everything that is known or the intelligence that a person has that is obtained from experience, practice, or through the learning process. Attitude is a reaction or response that is still closed from someone to a stimulus or object. Behavior is the process of a person seeing a certain stimulus or object, then arranging and assessing what is known, the next process carrying out or practicing what is known or attitude human activities which can be directly observed or those that cannot be observed by outsiders.[6] Public Health Centers are expected to be the first line of screening for visual impairments. The number of eye disease visits at Gunungpati Public Health Center in 2018 was 1,479 visits. Gunungpati Primary Public Health Center is known to be Primary Health Facilities that already have an eye clinic and sufficient facilities and infrastructure for eye examinations, so it can be estimated that visits for eye diseases at other Primary Health Facilities in general.[7] Some studies in 2018 have been carried out in Semarang, and the results obtained the level of knowledge, attitude, and behavior in elderly people about cataracts in Semarang is good.[8,9]

The lack of knowledge about the disease and its treatment is still a major obstacle to reducing blindness due to cataracts in developing countries, particularly in rural areas. However, evidence on public awareness, knowledge, and attitude about cataracts is not widely known and done. Hence, this study aimed to assess the Knowledge, Attitude, and behavior of the elderly regarding Cataracts around The Primary Care Center Semarang.

METHOD

Study design

This study is an observational study with a cross-sectional approach.

Study subjects and eligibility criteria

Stratified with a simple random sampling method was used to select the 40 participants who came to Gunungpati Primary Care Center, Rowosari Primary Care Center, and local clinic around Gunungpati Semarang in November 2019. The inclusion criteria of people aged 45 years and over and willing to be interviewed. There were no exclusion criteria in this study.

Study variables

The primary outcome variable of this study was Knowledge, Attitudes, and Behavior Regarding Cataracts of The Elderly. The questionnaire was developed and distributed in Bahasa. The questionnaire items were developed based on a review of related literature and chosen based on the opinions of expert researchers and ophthalmologist consultants who carried out a validation of the items. The questionnaire was pilot-tested on 20 randomly selected participants to estimate its reliability and content validity. The questionnaire was re-evaluated, and minor modifications were made for better understanding. The principles of the Helsinki declaration report were carefully considered during the development process of the questionnaire. Data were described using frequency distribution for categorical variables for positive responses. Socio-demographic and work-related characteristics were used as independent variables in this study.

Operational definitions

Knowledge of the elderly Regarding Cataracts was assessed using five items with "true" and "false" responses. Each correct answer was equal to one point, while each incorrect answer was equal to zero points, with a height possible score of 5 for the knowledge part. A mean of 5 questions regarding Knowledge of cataracts was calculated. And those above the mean score were categorized as 'good' knowledge, and those below were categorized as 'poor' knowledge.[10-11]

Attitudes of the elderly toward regarding cataracts were assessed by using 5 questions with a 15-point Likert scale from 'strongly disagree' (score 1) to 'strongly agree' (score 5).[10] The final score in the attitude section ranges from 5 to 25. A mean of the 5 questions of attitude towards regarding cataracts was calculated. Those above the mean value were categorized as 'good' attitude, and those below the mean value were categorized as 'poor' attitude.[10]

The behavior of the elderly Regarding Cataracts was assessed using five items with "yes" and "no" responses. Each correct answer was equal to one point, while each incorrect

answer was equal to zero points, with a height possible score of 5 for the Behavior part. A mean of 5 questions regarding Behavior towards cataracts was calculated. And those above the mean score were categorized as 'good' knowledge, and those below were categorized as 'poor' knowledge.[10,11]

Data collection tool and quality control

A self-administered, organized, and pre-tested questionnaire was created in Bahasa. The data collection process included two ophthalmology residents as interviewers and collectors. The one-day training was given to the data collectors to eliminate ambiguities.

Respondents were initially given a questionnaire which was then filled in, then in-depth interviews were conducted one by one with the interviewers. Open questions are given without limiting the respondent and exploring further what the respondent says.

Data processing and analysis

The data entry was performed using Microsoft Excel 2016 and analyzed using Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics were computed to describe the socio-demographic variables and the elderly' knowledge, attitudes, and behavior regarding cataracts. Canonical correlation analysis was done to measure the association between the dependent and independent variables. Odds ratio with 95% confidence level and P value were calculated to ascertain the strength of association and to decide statistical significance. For all significantly associated variables, the cut-off value was $p < 0.05$.

RESULT

Respondent Characteristics

This study was followed by 40 respondents, 38% male, and 62% female, with an age range from 46-70 years. Based on the last level of education completed, there were 32,50% had no formal education. Respondent occupations were dominated by no job occupation (60%) and around 82,50% had income between 100.000 – 1.000.000. Complete data is shown in table 1.

Table 1. Demographic characteristics of elderly people around the Primary Care Center Semarang

Group	Variable	Total (Percentage)
Gender	Male	15 (38%)
	Female	25 (62%)
Age	46-55 years	6 (15%)
	56-65 years	30 (75%)
	>65 years	4 (10%)
Education	No Formal Education	13 (32,50%)
	Elementary School	16 (40%)
	Junior High School	6 (15%)
	Senior High School	2 (5%)
	Bachelor Degree	3 (7,50%)
Occupation	No Job	24 (60%)
	Workers	16 (40%)
Income	100.000 - 1.000.000	33 (82,50%)
	1.000.000-3.000.000	4 (10%)
	3.000.000-5.000.000	3 (7,50%)

Knowledge, Attitudes and Behaviors

Table 2 showed a description of the respondent's knowledge, attitudes, and behavior regarding cataracts. Most of the elderly 52,50% had good knowledge, 85% of respondents had good behavior but 60% of respondents had poorly behavior.

Table 2. Respondents Knowledge, Attitudes and Behaviors regarding Cataracts

	Knowledge	Attitude	Behavior
Good	21 (52,50%)	37 (85%)	16 (40%)
Poorly	19 (47,50%)	6 (15%)	24 (60%)

Description of participant's sociodemographic and Knowledge, Attitude and Behavior

We used the canonical correlation square in Table 3 that education and knowledge were found to be statistically significant (p=0,001). Table 4 showed no variable significant correlation with Attitude (p>0,05). Table 5 showed Education and behavior has significant relationship (p=0,004).

Table 3. Corelation between demographic characteristic and Knowledge.

Covariate	B	Beta	Std. Err.	t-Value	Sig.of t	Lower-95%	CL-Upper
Gender	.0670062813	.0734936281	.14468	.46314	.646	-.22701	.36103
Age	.0505297544	.0489864958	.15920	.31740	.753	-27300	.37406
Education	-.3005546267	-.6934485209	.08612	-3.49010	.001	-.47556	-.12555
Occupational	.0469293175	.0460387371	.16933	.27714	.783	-.29720	.39105
Income	.1579386858	.1837379862	.16711	.94510	.351	-.18168	.49755

Table 4. Corelation between demographic characteristic and Attitude

Covariate	B	Beta	Std. Err.	t-Value	Sig.of t	Lower- 95%	CL- Upper
Gender	.1985828139	.3046121313	.11189	1.77473	.085	-.02881	.42598
Age	.2394655223	.3246710336	.12312	1.94492	.060	-.01075	.48968
Education	-.0836924111	-2700525312	.06660	-1.25659	.271	-.21905	.05166
Occupational	.2183692797	.2996001801	.13096	1.66741	.105	-.04778	.48452
Income	.0907442932	.1476390079	.12925	.70210	.467	-.17192	.35340

Table 5. Corelation between demographic characteristic and Behavior

Covariate	B	Beta	Std. Err.	t-Value	Sig.of t	Lower- 95%	CL- Upper
Gender	.0261037718	.0291849041	.13806	.18907	.851	-.25447	.30668
Age	.2096130460	.2071420789	.15192	1.37978,	.177	-.09912	.51835
Education	-.2542343167	-.5979237655	.08218	-3.09367	.004	-.42124	-.08723
Occupational	.1945339523	.1945339523	.16159	1.20387	.237	-.13386	.52292
Income	.0950691641	.1127381602	.15947	.59615	.555	-.22902	.41916

Table 6 showed standardized canonical coefficients for dependent variables, we found that Knowledge and Behavior had positive significance on the existing dependent variables (p>0,5).

Table 6. Standardizied canonical coefficients for dependent variables

	Function No.		
Variable	1	2	3
Knowledge	-.46182	.57749	.88015
Attitude	-.46182	-1.00422	.26439
Behavior	-.52798	.18696	-1.02363

Table 7 showed standardized canonical coefficients for covariates, we found that Gender, Education, and Income had positive significance on the independent variables (p>0,5).

Table 7. Standardized canonical coefficients for Covariates

	Canonical coefficients		
Covariate	1	2	3
Gender	-.18551	-.79631	.67596
Age	-.30301	-.79948	-.48688
Education	.94979	-.74401	-.40837
Occupational	-.28249	-.73430	-.46530
Income	-.24966	-.06506	.50016

Table 8 showed Correlations between Covariates and canonical variables, we found that Education and Income had positive significant(p>0,5).

Table 8. Standardized canonical coefficients for Covariates

Covariate	Canonical coefficients
Gender	-.27796
Age	-.48425
Education	.93164
Occupational	-.16094
Income	.51518

DISCUSSION

This study examined the elderly knowledge, attitude and behavior toward Regarding Cataracts around the Primary Care Center Semarang. This study showed that 52,50% of study participants had good knowledge about cataracts. This finding was lower than studies done in Semarang (100%),[9] China (70.9%),[12] Nepal (70.4%),[13] Iran (74%),[14] and Yirgalem town, Southern Ethiopia (64.7%).[15] But the finding was higher than studies done in Southern India (18%) and Nigeria (18.2%).[16,17] These variations can be explained by cut-off points used to measure the composite score of knowledge, the difference in the target population, and the study setting.

The study result showed that the overall good attitude of the study participants towards cataracts was 85%. This finding is comparable with the study done in Semarang (68,57%)[9] and India (90,1).[17] They responded well to the importance of checking eye health with an ophthalmologist and the importance of early detection of cataracts at the health center.

The study result showed that the behavior of the study participants toward cataracts was 40%. This finding was lower than the study done in Semarang 68.57% before. The results of this research, good knowledge had not to support having good behavior either, this is contrary to the theory of Notoatmojo (2013), knowledge is a very important dominant factor in a form of action against positive behavior. Strong support from the environment, especially the community and local primary care eye health is needed to change the behavior of respondents.[6,18]

The canonical correlation squares was found that education and knowledge were found to be statistically significant (p=0.001). This might be due to the reason that individuals with higher educational levels tend to read and explore more. They may also understand information related to cataracts easily so that they would become known. Table 4 shows that there is no significant relationship between the variables and attitudes (p>0.05). This result is not consistent with the studies done in India.[10] Further research is needed to reason out this discrepancy. Table 5 shows that education and behavior have a significant relationship

(p=0.004). This might be due to the reason that individuals with higher educational levels were more access to information and technology and tend to care about some kind of eye problem.[19]

In Canonical Analysis, we found that Knowledge and Behavior had positive significance on the existing dependent variables (p>0,5). Knowledge-attitude-Behavior theory proposes that health knowledge and information are the foundation for establishing active and correct beliefs and attitudes towards disease; such attitudes are the driving forces for modifying behavior.[20] The Gender, Education, and Income had positive significance on the independent variables (p>0,5). Based on Lawrence Green's theory, one of the predisposing factors of a person's knowledge, attitude, and behavior is a sociodemographic factor. The study also showed Correlations between Covariates and canonical variables, we found that Education and Income had positive significant(p>0,5). Education is an important component of well-being and it is used to measure quality of life and economic development, which is a determining factor whether a country is a developed, developing or underdeveloped country. education allows its owner to receive a higher income and gives the opportunity for self-expression, creative fulfilment, as well as moral satisfaction from current activities, including visiting health facilities if there are complaints. The importance of education should not be underestimated, since it is interconnected with all spheres of the economy and society.[21]

CONCLUSION

In this study, good knowledge, and attitudes were obtained among elderly respondents in primary care Semarang, but a majority of participants have poor behavior. A good approach strategy is needed to achieve these goals, Eye health promotion periodically will improve the knowledge of the elderly about visual impairment and blindness, so it might change the elderly's behavior, and Improve health care performance at "puskesmas" to do early cataract detection and facilitate their availability in primary care.

The counseling by promotion can be included in the routine program of the posyandu agenda for the elderly. Health workers can become extension agents in these activities. the existence of a routine extension program is expected to improve good behavior among the elderly in Semarang.

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