

ASSESSMENT OF FUNCTIONAL HEALTH LITERACY AMONG ADOLESCENTS OF MODEL SCHOOLS OF ISLAMABAD

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ABSTRACT

Objectives: To assess the functional health literacy among adolescents of Model schools of Islamabad. To determine association between health literacy and health seeking behaviour of adolescents.

Study Design: Cross sectional descriptive study.

Place and duration of study: The study was conducted in Model schools of Islamabad, from Jan to Dec 2016.

Material and Methods: Multi stage systematic sampling was done and a sample size of 350 using WHO sample size calculator. After taking informed consent from the students data were collected using the newest vital sign (NVS) for assessment of functional health literacy. Data were analyzed using SPSS version 22.

Results: The mean age of the respondents was 15 (SD \pm 0.6) years. There were 181 (52%) females and 169 (48%) males in the study. Out of 350 respondents 73 (20.9%) had very limited health literacy, while 187 (53.4%) had limited while 90 (25.7%) had adequate health literacy. In health seeking 30 students (8.6%) scored 1-2 on the health seeking behaviour score of 1-6 and therefore were categorized as having poor health seeking behaviour. While 164 students (46.9%) scored 3-4 and were categorized as having satisfactory health seeking. One hundred and fifty six students (44.6%) scored 4-5 and had good health seeking behaviour.

Conclusion: The health literacy among the adolescents was limited and had no association with health seeking behaviour.

Keywords: Adolescents, Functional health literacy, Health seeking.

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INTRODUCTION

Health literacy is defined as “the degree to which individuals have the capacity to obtain, understand, communicate and apply basic health information and services needed to improve one’s health¹. Healthy literacy took the shape of a concept in relation to health education in the 1970s in United States of America and since then thereis increased interest seen in this. In United States 90 million people have inadequate levels of health literacy². Although health literacy has a relationship with the literacy level of a person but in addition to it, health literacy demands skills to find, evaluate and integrate health information from various sources along with appropriate knowledge of the health system³. Low health literacy is viewed as a barrier to take care of one’s own health¹. In public health context, health literacy is viewed as an opportunity which can

help educate and empower people, to enable them to exercise more control of their lives and at the same time utilize health information and services to the better. Health literacy is more relevant among adolescents as they are increasingly involved in their health care, have regular interaction with the health system and access health information which informs their actions and behaviors⁴. Health literacy also requires adequate attention respective to the amount of educational material to be provided to youth by health care providers, intervention programs and schools. The information provided to the youth should be relevant to their literacy as it may be difficult at their level to make choices on the basis of information.

Health seeking of adolescents is important with regards to the sources they use for accessing the health information. Health seeking mainly depends on the organization and culture of health system. This includes seeking help from health services available. It is mostly based on the

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health service organization for example clinics, counsellors, psychologists, medical staff, traditional healers or youth programmes. Other sources include peer groups and friends, family members or kinship groups and/or other adults in the community⁴. In addition to the above sources of seeking health information; internet has gained a place among adolescents health seeking practices. The interplay of adolescent's use of internet and other health seeking sources need to be contextualized as they might avoid contacting a healthcare specialist on finding empowerment from online sources⁵. Like different parts of the world a lot of work is being done in the field of health literacy in Pakistan. Health literacy survey-asia (HLS-Asia) was done as a sister project of the European health literacy survey project (HLS-EU). The survey was initiated in 2013 in Asia and Pacific with the support of HLS-EU research team. The survey was conducted in five countries including Taiwan, Vietnam, Indonesia, Pakistan and Kazakhstan, from Pakistan 1135 citizens participated in the survey and were above the age of 15 years. A health index was calculated and Pakistan had lowest health index of 26.72 while Taiwan had the highest index of 34.15⁶. As health literacy has an impact on the health outcome and prevention and early intervention are crucial from public health perspective therefore health literacy should be addressed at an early age. This will empower the adolescents to understand the determinants affecting their health.

MATERIAL AND METHODS

It was a descriptive cross sectional study, conducted in model schools of Islamabad after ethical approval from the internal review board, Army Medical College, Rawalpindi. Permission for the conduction of study in the model schools of Islamabad was sought and granted by the federal education department office G-9 Islamabad. The study was carried out from Jan to Dec 2016. The study population were adolescents in the phase of late adolescence (15-19) years of age⁷. For sample calculation WHO sample size

calculator was used keeping in view the statistics of anticipated population proportion of 0.80. The sample calculated was 350 individuals at 95% confidence interval and 5% margin of error. Sampling was through multistage sampling technique. In the first stage schools were selected using lottery method from a list of model schools in Islamabad obtained from the federal department of education G-9 Islamabad. In the second stage adolescents were selected by systematic random sampling in each school. Every third adolescent was selected from the list and in case the adolescent was absent or unwilling to take part in the research the adolescent next on the list was taken in. A verbal and written voluntary consent was taken from the adolescents before the filling of questionnaires. Functional health literacy was defined as the ability of the adolescents to read and understand written as well as oral information related to health. The tool used for the assessment of functional health literacy was newest vital sign (NVS) which is a 6 item questionnaire, each item having a score of 1 if answered correctly and a score of 0 in case of false answer. The minimum score was 0 and maximum score was 6. The scores were categorized for interpretation purposes as 0-1 (very limited health literacy), 2-3 (limited health literacy), 4-6 (adequate health literacy). Health seeking behaviour was defined as the awareness of adolescents about their health problems, times when to consult a healthcare personnel and use of different sources for seeking information about their health. It was measured on a total score of 1-6 with 1 being minimum and 6 being highest score and was categorized as Good (5-6) Satisfactory (3-4) and poor (1-2). For the assessment of behaviour proxy indicators were used which involved; the type of health professional to whom the adolescents visited, the kind of treatment they opted for, use of internet, journals, newspapers to acquire knowledge about health. Data were collected by a structured questionnaire including a demographic questionnaire followed by a

validated and open access questionnaire newest vital sign ($\alpha=0.79$) for assessment of the functional health and a questionnaire on health seeking behaviour was derived from health literacy survey european union questionnaire 47 version for Asia⁸. The questionnaire was explained to the students before filling. Data analysis was done using SPSS version 22. For quantitative variables such as age and functional health literacy score, mean scores were calculated

that most of the participants belonged to lower middle class. The functional health literacy categories showed that mostly health literacy was limited among the study population. The association of functional health literacy on health seeking behaviour was explored by applying Spearman rank order correlation (table-II). Health literacy score was taken as a dependent variable and health seeking behaviour score was taken as an independent variable. The

Table-I: Sociodemographic features of the study population.

Demographics	Frequency	Percentage (%)
Gender		
Female	181	51.7
Male	169	48.3
Age		
14 years	1	0.3
15 years	237	67.7
16 years	89	25.4
17 years	23	6.6
Ethnic group		
Punjabi	218	62.3
Pathan	49	14
Sindhi	8	2.3
Balti	3	0.9
Kashmiri	3	0.9
Other	69	19.7
Level of education		
Class 9	152	43.4
Class 10	198	56.6

n=350

in the form of mean and SD. The categorical variables such as gender, ethnicity income, profession and health seeking behaviour were summarized as frequencies and percentages.

RESULTS

The sociodemographic features of the adolescents including age, gender; ethnic group and level of education are summarized in table-I. The educational level of the parents of the study population is showed that 35% of fathers went to the high school while 25% of mothers attended middle school. The socioeconomic breakdown of the participants of the study population showed

data of functional health literacy were continuous and health seeking behaviour was ordinal. A non-parametric test was applied. The spearman rank correlation coefficient calculated was (0.32) and the p -value was ($p=0.556$). No association of functional health literacy was found on health seeking behaviour (table-III). When the relationship of age and functional health literacy was seen a highest percentage of functional health literacy was seen in adolescents of 15 years of age. The association of socio-economic status on health literacy and health seeking behaviour was seen by applying chi square test. The pearson chi square value calculated for

association of socioeconomic status with health literacy was 0.132 and for socioeconomic status and health seeking behaviour was 0.921.

DISCUSSION

The study showed that 24.7% adolescents had adequate health literacy. National assessment of adult literacy (NAAL) survey showed 12% of adult population in America had proficient health literacy⁹. NAAL survey was conducted in the United States of America in households and prisons in the year 2003 to assess the English literacy among the American adults.

35% of population showed good health literacy as the participants of the study had an education level of Bachelors followed by Masters¹¹. Socioeconomic status did not seem to have an impact on health literacy in this study as more adequate health literacy was seen in the lower middle class adolescent but then again the number of students belonging to this class was high. The findings are not in agreement with the study done in Rawalpindi which shows that health literacy was better in respondents with higher income¹¹. The limited health literacy scores of 15 years old was (56%) while that of 16

Table-II: Mean score and standard deviation of functional health literacy.

	Total Number of adolescents	Min	Max	Mean	Std Deviation
Fun Health Literacy Score	350	0	5	2.66	1.283

Table-III: Non-Parametric Correlations.

		Spearman rho Correlations		
			Health Behaviour New	Functional Health Literacy
Health Behaviour New	Correlation Coefficient		1.000	0.032
	Sig. (2 tailed)			0.556
	N		350	350
Functional Health Literacy	Correlation Coefficient		0.032	100
	Sig. (2 tailed)		0.556	
	N		350	350

Table-IV: Frequency of students' health seeking behaviour scores

Health Seeking Categories	Score	Number of Students	Percentage (%)
Poor health seeking	1-2	30	8.5
Satisfactory health seeking	3-4	164	46.8
Good health seeking	5-6	156	44.5

The survey at the same time assessed health literacy in these 19,000 adult Americans of age 16 years and above through tasks guided by the definition of health literacy used by the Institute of Medicine¹⁰. The difference of adequate health literacy in adolescents in comparison to the NAAL survey can be due to the group chosen for the study. The adolescents are in a phase of rapid learning as compared to adults and more use of media can be a source to their adequate health literacy. A study done in Rawalpindi in a selected population also showed

years old adolescents was (51%). The findings were compared with the literature from a study done from Aug 2008 to Oct 2011 on association of age and health literacy. It was a cross sectional analysis of a cohort study¹². The study concluded that the tests used for assessing health literacy should be appropriate for assessing health literacy among older adults because statistical analysis was done which showed that TOFHLA and NVS scores were lower in the age groups of 70-74 years than younger age groups ($p \leq 0.05$) while no effect was

seen in score of REALM test¹². So it is deduced from this discussion that cognitive age can have effect on assessment of health literacy in adolescents as well. In regard to the health seeking behaviour of adolescents the findings were as "Good, Satisfactory and Poor" in (44.5% vs 46.8% vs 8.5%) respectively (table-IV). The adolescents' use of internet was often to seek their health issues. Similar findings are seen in literature to a study exploration of use of internet as a source of health seeking among adolescents⁵. Ninety nine percent adolescents consulted doctors as trusted advisors which is in line with the findings in a study done on exploring internet as a source of health seeking among adolescents.

LIMITATION OF STUDY

The adolescents of 18 and 19 years could not be included in the study as per education system of Pakistan this age group of adolescents is mostly attending higher secondary schools. Also private schools could not be accessed due to examinations and summer break. Therefore the findings of this study cannot be generalized.

CONCLUSION

Health literacy among adolescents was limited and had no association with the health seeking behaviour of adolescents.

RECOMMENDATIONS

Activities for adolescents like poster competitions, question and answer sessions (Q&A) or walks can be arranged to create awareness about health. The school health services should identify the areas of health needs

of adolescents and strengthened in provision of healthcare services in schools along with delivering health promotion and education. A survey with larger sample size should be conducted in future. Health seeking behaviour of adolescents should be explored in depth.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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