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Health literacy in students with and without hearing impairment

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Abstract
Literacy fosters economic development and illiteracy fosters poverty. Developing literacy is one of the cherished goals of education. Education focuses primarily on developing literacy amongst children. In the earlier days, literacy focused only on developing 3R's (Reading, writing and arithmetic), which are essential for school education. Today, literacy covers other areas like computer, health etc. The aim of study is to assess the health literacy in students with and without hearing impairment studying in special and mainstream schools.

Keywords: Health literacy, students with hearing impairment, students without hearing impairment

Introduction

Health and Education

Health is considered as a major wealth for many individuals. Maintaining good health has become an essential need of life. Many nations have considered health as a priority area and have planned and implemented several measures to provide better health conditions to their citizens. The measures taken are mainly bi-fold. While the prime focus of the first set of activities is on the prevention of health related issues in the country and to create adequate awareness about maintaining good health in individuals, the second set is on bringing adequate infrastructure and health related services to every citizen in the country. The Alma-Ata Declaration (1978) emphasizes that, everyone should have access to primary health care, and everyone should be involved in it. All these are not possible without improving the education levels of the citizens. According to Planning Commission's report (2002)

Health Education is the primary and most effective means so far evolved for transmitting practically useful knowledge from one generation to another. According to WHO (1986), health is a fundamental human right, and correspondingly, all people should have access to basic resources for health. The purpose of health education is to positively influence the health behavior of individuals and communities as well as the living and working conditions that influence their health. It improves the health status of individuals, families, communities, states, and the nations and enhances the quality of life for all people.

Review of related studies

According to Healthy people (2010), health literacy is the degree to which individuals have the capacity to obtain, process and understand basic health information and services for appropriate health decisions'' Health literacy is the means by which holders of knowledge can make that knowledge understandable and usable for the receiver.

According to Glassman (2010), *a* person who functions adequately at home or work may have marginal or inadequate literacy in a health care environment. Hence, individuals need to take an even more active role in health care related decisions. To accomplish this, people need strong health information and skills. Adams, Robert, Stocks, (2009) [1] mentioned that, the ability of an individual to understand and interpret the meaning of health information in written, spoken or digital forms and how this motivates people to embrace or disregard action relating to health can be achieved only through health literacy.

There are several factors that can influence the health literacy of students. While the schools play an important role in developing health literacy ecological model suggests that several factors at different levels influence the health knowledge and behavior. According to Nielsen-Bohlman *et al*. (2004) [7], individual traits such as age, gender, cultural background, cognitive and physical abilities and social skills predict one's health literacy.

Pollard & Barnett, (2009) [9] conducted a study on the deaf adults and reported that the highly educated deaf participant sample demonstrated risk for low health literacy. The general deaf population is likely at even higher risk for health problems associated with low health literacy.

Angelo and Paasche (2007) [4] conducted a survey and reported that, limited health literacy is pervasive and independent risk factor for poor health outcomes. Despite decades of report exhibiting that the healthcare system is overly complex, unneeded, complexity remains commonplace and endangers the lives of patients, especially those with limited health literacy. The researchers defined health literacy and described the empirical evidence associating health literacy and poor health outcomes. They reacted the issue of poor health literacy from within the ethical perspective of the both least of and argue that, poor health outcomes deriving from limited health literacy ought to understand as a fundamental injustice of the healthcare system.

Objective of study

1. To compare the achievement of health literacy in students with and without hearing impairment studying in special and mainstream schools.
2. To study the levels of knowledge of health literacy in male students with hearing impairment studying in special schools.
3. To study the levels of knowledge of health literacy in female students with hearing impairment studying in special schools.

Hypothesis

1. There exists no significant difference in the achievement of health literacy in students with and without hearing impairment studying in special and mainstream schools.
2. There exists no significant difference in the achievement of health literacy in male students with and without hearing impairment studying in special and mainstream schools.
3. There exists no significant difference in the achievement of health literacy in female students with and without hearing impairment studying in special and mainstream schools.

Method

Two groups namely; Group-A (66 students with hearing impairment studying in special schools) and Group-B (111 students without hearing impairment studying in mainstream schools) were randomly selected as the participants for the study.

The first group (Group-A) of 66 students with hearing impairment was selected from special schools located in Mumbai district of Maharashtra. The criteria followed for selection included: (i) hearing loss more than 60 decibel in the better ear;(ii) studying in 9th /10th standard in special schools; (iii) minimum 10 years of schooling; (iv) no other additional impairment; (vi) oral–aural /total communication as mode of communication;(vii) no specific learning difficulties or intellectual impairment; and (viii) English/Hindi/Marathi as medium of class room instruction.

The second group (Group-B) of 111 students without hearing impairment was selected from mainstream municipal schools located in Mumbai district of Maharashtra. The criteria followed for selection of Group-B includes: (i) hearing within the normal limits; (ii) studying in 9th/10th standard in general schools; (iii) minimum 10 years of schooling; (iv) no specific learning difficulties or intellectual impairment; and (vi) English/Hindi/ Marathi as medium of class room instruction.

Tool

The researcher developed a Teacher Made Test titled Test of Health Literacy for 40 marks to study the health literacy in the students with and without hearing impairment. The health related vocabulary was selected from the Science text books of standards V to X. The tool was validated with the help of five judges. The Test of Health Literacy was administered on the selected participants and the responses were evaluated using the developed scoring key. The data obtained from groups - A & B were coded analyzed for testing the hypotheses.

An appropriate parametric test for judging the significance of the mean of difference between the two samples was found to be 't'test (unpaired) and hence, the same was used. The analysis was carried out using the computer software statistical package 'STATDIRECT'.

Table 1: Showing 't'- test analysis: Health literacy in students with and without hearing impairment.

Variable	Group	N	Mean	S.D.	DF	't' tab	't' cal	Results
Health Literacy	A	66	29.273	3.951	175	2.617	5.186	Significant at 0.01 and 0.05 levels
	B	111	26.131	4.364				

Table 2: showing't'- test analysis: Health literacy in male students with and without hearing impairment

Variable	Group (Male)	N	Mean	S.D.	DF	't' tab	't' cal	Results
Male Health literacy	A	45	29	3.696	110	2.617	4.711	Significant At 0.01 level and 0.05 levels
	B	67	25.284	4.621				

Table 3: Showing't'- test analysis: Health literacy in female students with and without hearing impairment

Variable	Group (Female)	N	Mean	S.D.	DF	't' tab	't' cal	Results
Female Health literacy	A	21	29.857	3.376	63	2.000	2.652	Significant At 0.05 level
	B	44	27.420	3.623				

Major findings

1. The achievement of health literacy in students with hearing impairment studying in special schools was found better than the students without hearing impairment studying in mainstream schools.
2. The achievement of health literacy in male students

with hearing impairment studying in special schools was found better than the students without hearing impairment studying in mainstream schools.
3. The achievement of health literacy in female students with hearing impairment studying in special schools was found better than the students without hearing impairment studying in mainstream schools.

Suggestions for further study

1. Similar studies could be carried out with a large sample by covering with students with and without hearing impairment in lower classes.
2. Similar studies could be carried out on students with other disabilities.
3. Similar studies could be carried out by covering more health related areas.

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