AMDHS ADVANCES IN MEDICAL, DENTAL AND HEALTH SCIENCES

RESEARCH ARTICLE OPEN ACCESS

Perceived Health Literacy and Health Information Seeking Behavior among University Students in Pakistan

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Received: 11 September 2018;
Accepted: 17 October 2018

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Published by : OZZIE PUBLISHERS

Abstract

Objective: In this era, the internet becomes a common source of health information worldwide. In this study, we understand the influence of the internet on health-seeking behavior among university students in Pakistan. Methodology: A cross-sectional survey was conducted during this study. A random sample of university students (n=300, mean=28.97 and SD= 4.580) participated in this survey. Results: This study had good internal consistency reliability (Cronbach's alpha = 0.8). In addition, eHealth is found to be associated with the Healthcare provider's degree program, semester and age, as well as they, are important in health information seeking behavior. Conclusion: This study supports that students' health seeking behavior using the internet is an important part of making a health decision.

Key words: eHealth literacy scale, eHealth literacy, Cronbach's alpha, Students.

INTRODUCTION

These days, using the internet has become a standard means to search for health information.[1] The latest study verified about internet user ranges from teenagers to the forty-year-old was 83.4% and about 72% among them were hooked on social networking continuously.[2] In Web 2.0; there is a lot of information access relative to health; therefore, it is an effective way to educate people.[3] eHealth users need the skills to search, check, validate and practice what is gained in computerized environments toward solving health issues.[4] This composite skill requires that people are ready to work with technology, appropriately understand about issues of media and science and navigate via a great array of information tools and sources to acquire the knowledge necessary to make decisions.[5] As reported by Norman and Skinner[6] eHealth is a technique to use the internet for making a health decision. So, we can say that the eHEALS measures consumers' *perceived* skills and comfort with eHealth, not the skills directly. The eHealth literacy model includes six types of literacy and thus each skill requires independent measurement, such as rigorous usability tests of standard computer equipment for computer literacy and reading aloud text passages to assess basic prose literacy.[7]

Norman and Skinner[6] created the eHealth literacy scale to determine an individual's approach to their own digital health literacy ability.[8] The main purpose of eHealth literacy is to enable the user to read, think and convey people about health information to help them in the health-related decision. Many research studies have used the eHEALS scale to see eHealth skill despite lack of proof.[9] Asian countries 'researchers like Japanese created their own versions[10-12] of eHealth literacy scale to find eHealth literacy. However, many Asian countries like Pakistan have not yet worked on it. Previously research in Pakistan, evaluate of internet access and use by medical students in Lahore, Pakistan.[13] In this study, we construct validity of eHealth literacy scale was analyzed among Pakistani university students who use the internet

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DOI : 10.5530/amdhs.2018.1.3

regarding health decision.

METHODS

Study population From March 2018 to April 2018, a cross-sectional survey was conducted at The University of Lahore, Pakistan. Inclusion criteria were that those, participants were eligible who were having age between the range of 18 to 44 have secondly, they should have the ability to read and write English. In total 323 questionnaires were distributed, 300 participants (male=70 and female=221) agreed to participate in this study. The response rate was 92%.

eHealth literacy: In this study, perceived Health Literacy has been measured by the eHealth literacy scale.[14] Norman and Harvey[6] made it measure user's combination intimacy, knowledge and appreciate searching skills, judge and utilize internet health information for health problems and decisions. eHealth literacy scale contains 8 basic questions on a 5-levels Likert scale range from 1 = Strongly Disagree to 5= Strongly Agree. High gain in eHeals scores shows high eHealth literacy (Web 2.0). Total score ranges are 5 to 40. In this study, Cronbach's alpha[15] =0.800, it showed its internal consistency is good. It makes a comparison to safe, good and ready estimates as compared to previous studies.

Sociodemographic and Social Determinant Variables: In the demographic information we asked about the gender (male/female/other), age measured using the following (1) 18-24 (2) 25-34 (3) 35-44, degree program DDNS=Doctor of diet nutrition, DPT= Doctor of Physical health, MID= Medical imaging doctor, Semester (1) 1-2 (2) 3-4 (3) 5-6 (4) 7-8 and Province (1) Punjab (2) Sindh (3) KPK (4) Baluchistan.

We invited only students in degree programs in Health Sciences because the students in universities, especially in the medical fields, have a duty to make health decisions.

Statistical Analysis: We have used SPSS version 20.0 for statistical analysis of our data. We analyzed each item of the eHealth literacy scale. For statistical analysis, we did an independent *t*-test to compared eHealth literacy between male and female for seeking health information.

RESULTS

Participant characteristics

This study shows that female comprised 221 (73.7%) and male was 79(26.3%). Age domain from 18 -24 year old 1.3%, 24-34 year old 65% and 35-44 year old 33.7%. According to degree program, Doctor of Dietetics and Nutritional Sciences (DDNS) 28 (9.3%), Doctor of Physical 227 (75.7%), Medical Imaging Doctor (MID) 45(15.0%) Moreover, according to semester, (a) 1- 2 semester 47.7 %, (b) 3-4 semester 23.3%, (c) semester 5-6 semester 1% and (d) semester 7-8 29.0%. Table 1 shows the participants' characteristics.

Reliability and Validity

In our study, eHeals shows the students mean 28.97 and standard derivation of 4.580. Table 2. Mean, SD, Factor Loadings and Item-to-total correlations: represent the feedback frequencies for every eHeals scale item. The maximum, median and minimum scores were 40, 29 and 8 respectively. The item-total correlations ranged from 0.620 to 0.389 for the eight items. Factor loading ranged from 0.746 to 0.512 for eheals eight items. In this study, the value for Cronbach's alpha was 0.8.

*Indicates there is no value in that cell

DISCUSSION

This study is designed to measure the perceived ehealth literacy scale among Pakistani university students. Original eHealth literacy questionnaire developed by Norman and Harvey[6] was used to find the eHealth literacy among students. The demographic information like relationship status, income and family members etc were not important. In the modern age, it is more appreciable to women participants about health decision because many medical problem women facing more than men like depression etc. [16] This study showed that students use internet for their health decision. Moreover, our study had good internal consistency.

Table 1: Shows the participants' characteristics.

Demographic	Features	N (%)
Gender	Male Female	79(26.30) 221(73.70)
Age	18-24 25-34 35-44	4 (1.30) 195(65.00) 101(33.70)
Degree program	Doctor of Dietetics and Nutritional Sciences (DDNS) Doctor of Physical Therapy(DPT) Medical Imaging Doctor (MID)	28(9.30) 227(75.70) 45(15.00)
Semester	1-2 3-4 5-6 7-8	143(47.70) 67(22.30) 3(1.00) 87(29.00)
Province	Punjab Sindh KPK Baluchistan	292(97.30 4(1.30) 2(.70) 2(.70)

Table 2: Mean, SD, Factor Loadings and Item-to-total correlations.

Items	Mean	SD	Factor loading	Item-total Correlation
I know what health resources are available on the Internet.	3.64	.848	.670	.528
I know where to find helpful health resources on the Internet.	3.50	.852	.686	.543
I know how to find helpful health resources on the Internet.	3.78	.830	.746	.620
I know how to use the Internet to answer my questions about health.	3.90	.848	.593	.453
I know how to use the health information I find on the Internet to help me.	3.75	.842	.634	.501
I have the skills I need to evaluate the health resources I find on the Internet.	3.60	.850	.688	.556
I can tell high-quality health resources from low-quality health resources on the Internet.	3.36	.894	.512	.389
I feel confident in using information from the Internet to make health decisions.	3.44	1.097	.655	.520
Mean (SD) sum score	28.97	4.580	*	*
Cronbach 's alpha	0.800	*	*	*

The study showed that eHealth literacy is also influenced by age, gender, a degree program that they were studying and semester. Students in the higher semester had more attention to the used internet for health information.[17] Findings from several investigations showed demographic, education background are uncommon to effect on eHealth literacy[18-20] and eHealth literacy[21-23] in the overall population. As Pakistan is a developing country, it is a concern that the availability of internet services is limited and understanding the English language is not up to the mark. However, in universities, the majority of the students have the ability to understand English and access to the internet. During the survey, the questionnaire motivateed students to use the internet for health information and realized them the importance of Web 2.0. We can say that they have the ability to search health information but we are not sure whether they know the difference between high and low health resources.

In our study, there were some limitations. This study was conducted among university students who had internet access. We could not include participants from outside. Secondly, as it is conducted at the university level, so it cannot represent the national scenario. Lastly, cross-sectional studies limit the researcher to establish principles between health outcomes and sociodemographic variables.

CONCLUSION

This study showed that Pakistani universities students are highly motivated to use the internet for health information. However, there is a necessity to promote internet for health decision. There is a need to motivate them to develop their computer skills and build difference between high and low information resource.

AUTHORS CONTRIBUTION

Muhammad Moazzam conceived, designed and did statistical analysis, manuscript writing and editing of the manuscript. Dr. Fozia Anwer and Dr. Suleman Atique, Dr. Syed Amir Gillani conceived, designed, editing of manuscript, review and final approval of the manuscript. Shama Kanwal, Saba Afzal, Afisa Bashir, Sadia Sarwar, Raza Tanveer and Muteb Alshammari did data collection and wrote manuscript.

ACKNOWLEDGEMENT

None.

GRANT SUPPORT AND FINANCIAL DISCLOSURES

None

ABBREVIATIONS

None.

REFERENCES

1. Gordon NP, Hornbrook MC. Older adults' readiness to engage with eHealth patient education and self-care resources: a cross-sectional survey. BMC health services research. 2018;18(1):220.
2. Knapp C, Madden V, Wang H, Sloyer P, Shenkman E. Internet use and eHealth literacy of low-income parents whose children have special health care needs. Journal of Medical Internet Research. 2011;13(3):e75.
3. Norman CD, Skinner HA. eHEALS: The eHealth Literacy Scale. Journal of Medical Internet Research. 2006;8(4). doi: 10.2196/jmir.8.4.e27.
4. Mitsutake S, Shibata A, Ishii K, Oka K. Associations of eHealth Literacy With Health Behavior Among Adult Internet Users. Journal of Medical Internet Research. 2016;18(7).
5. Yang SC, Luo YF, Chiang CH. The Associations among Individual Factors, eHealth Literacy and Health-Promoting Lifestyles Among College Students. Journal of Medical Internet Research. 2017;19(1).
6. Pellowski JA, Kalichman SC. Recent Advances (2011-2012) in Technology-Delivered Interventions for People Living with HIV. Current HIV/AIDS reports. 2012;9(4):326-34.
7. Sudbury-Riley L, FitzPatrick M, Schulz PJ. Exploring the Measurement Properties of the eHealth Literacy Scale (eHEALS) Among Baby Boomers: A Multinational Test of Measurement Invariance. Journal of Medical Internet Research. 2017;19(2):e53.
8. Witten NAK, Humphry J. The Electronic Health Literacy and Utilization of Technology for Health in a Remote Hawaiian Community: Lana'i. Hawai'i Journal of Medicine and Public Health. 2018;77(3):51-9.
9. Britt RK, Collins WB, Wilson K, Linnemeier G, Englebert AM. eHealth Literacy and Health Behaviors Affecting Modern College Students: A Pilot Study of Issues Identified by the American College Health Association. Journal of Medical Internet Research. 2017;19(12):e392.
10. Mitsutake S, Shibata A, Ishii K, Okazaki K, Oka K. [Developing Japanese version of the eHealth Literacy Scale (eHEALS)]. [Nihon koshu eisei zasshi] Japanese Journal of Public Health. 2011;58(5):361-71.
11. Chung SY, Nahm ES. Testing Reliability and Validity of the eHealth Literacy Scale (eHEALS) for Older Adults Recruited Online. Computers, informatics, nursing: CIN. 2015;33(4):150-6.
12. Britt RK, Collins WB. eHealth Literacy and Health Behaviors Affecting Modern College Students: A Pilot Study of Issues Identified by the American College Health Association. 2017;19(12):e392.
13. Jadoon NA, Zahid MF, Mansoorulhaq H, Ullah S, Jadoon BA, Raza A, *et al*. Evaluation of internet access and utilization by medical students in Lahore, Pakistan. BMC Medical Informatics and Decision Making. 2011;11(1):37.
14. Yang SC, Luo YF, Chiang CH. The Associations among Individual Factors, eHealth Literacy and Health-Promoting Lifestyles Among College Students. J Med Int Rese. 2017;19(1):e15.
15. Hsu W, Chiang C, Yang S. The Effect of Individual Factors on Health Behaviors among College Students: The Mediating Effects of eHealth Literacy. J Med Int Res. 2014;16(12):e287.
16. Schulte MT, Ramo D, Brown SA. Gender Differences in Factors Influencing Alcohol Use and Drinking Progression among Adolescents. Clinical Psychology Review. 2009;29(6):535-47.
17. Chu JTW, Wang MP, Shen C, Viswanath K, Lam TH, Chan SSC. How, When and Why People Seek Health Information Online: Qualitative Study in Hong Kong. Int J Med Res. 2017;6(2):e24.
18. Tchounwou PB, Zhou J. International Journal of Environmental Research and Public Health Best Paper Award 2014. Int J Environmental Res Public Health. 2014;11(1):1192-4.
19. Gordon NP, Hornbrook MC. Older adults' readiness to engage with eHealth patient education and self-care resources: a cross-sectional survey. BMC health services research. 2018;18(1):220.
20. Naimi AJ, Naderiravesh N, Bayat ZS, Shakeri N, Matbouei M. Correlation between health literacy and health-related quality of life in patients with hypertension, in Tehran, Iran, 2015-2016. Electronic physician. 2017;9(11):5712-20.
21. Kayser L, Karnoe A, Furstrand D, Batterham R, Christensen KB, Elsworth G, *et al*. A Multidimensional Tool Based on the eHealth Literacy Framework: Development and Initial Validity Testing of the eHealth Literacy Questionnaire (eHLQ). J Med Int Res. 2018;20(2):e36.
22. Kim EJ, Yuan Y, Liebschutz J, Cabral H, Kazis L. Understanding the Digital Gap Among US Adults With Disability: Cross-Sectional Analysis of the Health Information National Trends Survey 2013. JMIR Rehabilitation and Assistive Technologies. 2018;5(1):e3.
23. Woods SS, Forsberg CW, Schwartz EC, Nazi KM, Hibbard JH, Houston TK, *et al*. The Association of Patient Factors, Digital Access and Online Behavior on Sustained Patient Portal Use: A Prospective Cohort of Enrolled Users. J Med Int Res. 2017;19(10):e345.

Cite this article as: Moazzam M, Anwer F, Atique S, Kanwal S, Afzal S, Bashir A, Sarwar S, Alshammari M, Tanveer R, Gilani SA. Perceived Health Literacy and Health Information Seeking Behavior among University Students in Pakistan. Adv. Med. Dental Health Sci. 2018;1(1):5-7.