Analysing ehealth literacy, social support and medical conditions as predictors of general health among older adults

Fiona Chew, PhD.
Syracuse University
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Previous Research

Increase in online health information - Use internet healthcare information to make healthcare decisions (Fox & Duggan, 2013)

eHEALS (ehealth literacy measure) -- Use information technology to search, locate, process and understand health information to improve health and healthcare. (Norman & Skinner, 2006)

Ehealth literacy linked to healthy behaviors -- balanced diet, higher exercise frequency, (Mitsutake et al, 2016) -- and better management of health care needs (Neter & Brainin, 2012)

Syracuse University
Older Adults 65+

US population will age rapidly

US census: Older adults
-- 55 mill in 2020 (21%);
-- 72 mill 2030 (25%)

-- Higher health risk
-- Heavier health care system use
-- Higher health cost
Increase in online health information: Use internet healthcare information to make healthcare decisions (Fox & Duggan, 2013a)

Younger, more educated users are more active information consumers (Neter & Brainin, 2012)

E-health literacy linked to healthier health behaviors
Ehealth Literacy (Eng, 2001)

Search the Internet
Locate
Process
Understand
Improve healthcare and health
Study Focus

Question: Is social support or ehealth literacy linked to better general health of older adults 65+?

Our previous research found that ehealth literacy was related to:
- Healthier Body Mass Index
- More fruit and vegetable consumption
- Higher exercise frequency
- Lower # of mental health issues

Social support linked to better health outcomes (Ashida & Heaney, 2008; Segrin et al, 2010),
Method

- Data – nationally representative Health Information National Trends Survey (HINTS 2017 Cycle 1), National Institutes of Health, National Cancer Institute.
- HINTS assesses impact of health information environment; Identifies trends, access, practices
- 1061 subjects aged 65+ applying jackknife replicated weights
- Focus on adults aged 65+, n=1065.
Variables

- **Composite ehealth literacy: 6 measures**
  - Traditional literacy – Likert scale 1 to 4
    - 1) The health information found was hard to understand. 2) Felt frustrated during search
    - 1= strongly agree, 4=strongly disagree.
    - M=2.99
  - Health literacy
    - Ability to take care of own health. 1=not at all confident, 5=completely confident.
    - M=3.82
  - Media literacy – Trust in 3 media sources:
    - newspapers/mag, radio, and TV. 4-point scale: 1=not at all, 4=a lot.
    - RECODE 4,1=0; 2,(a little)=1, 3 (somewhat)=1.
    - M=2.14
Variables

- Computer literacy – Yes (1)/no (0)
  1) Select internet – where go to first in search for information about health or medical topics
  2) Go online to access the internet or WWW or send/receive email. M=1.31

- Information literacy – Confidence 1 to 5
  Getting advice or information about health or medical topics – 1=not at all, 5= completely. M=3.72

- Science literacy – Likert scale 1 to 4
  “So many recommendations about preventing cancer, hard to know which to follow.” M=2.06

- E-health literacy – sum of 6 literacy components for range of 6 to 23, M=16.05

- Cronbach’s alpha=.32 -- multidimensionality
Variables

- **Social Support** – Sum of 3 items (0–3)
  - Emotional support, talk to about health, help with daily chores. \( M = 2.63 \)

- **Total medical conditions** – Sum of 7 conditions – diabetes, high blood pressure, heart condition, chronic lung condition, arthritis, depression/anxiety, cancer (0-7) \( M = 2.17 \)

- **Education**
  - Higher – college and above – 24.2%
  - Lower – less than college – 75.8%
Variables

- **Self-Reported general health**
- 5 levels of self reported health: 1) poor, 2) fair, 3) good, 4) very good and 5) excellent. M=3.19

- Previous research -- associations between Self reported health and health outcomes (eg morbidity Gold et al, 1996), mortality (eg Bardage et al, 2005).
Statistical analyses

- Frequency distributions, correlations
- Regression analysis
- $p < .05$
Correlations among general health, education, total medical conditions, social support and health literacy

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***p<.001, ** p<.01

Except for social support, these variables had small but statistically significant inter-correlations with each other.
Regression analysis of total medical conditions, education, social support and ehealth literacy as predictors of general health

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***p<.001, ** p<.01

Medical conditions, education and ehealth literacy accounted for 28% of the variance in general health; #medical conditions contributed the most variance 14.5% followed by ehealth literacy (10.3%).
Key Variables Predicting* the General Health of Older Adults

- # Medical conditions: 14.5%
- ehealth literacy: 10.3%
- College education: 3.1%
- General health: 28%

*variance explained
Discussion

- Total medical conditions was the strongest predictor of general health. The more ailments or diseases older adults have, the less likely they are to enjoy good health.

- More highly educated adults and those with higher eHealth literacy levels were more likely to enjoy better health.

- eHealth literacy appeared to be a stronger predictor of health compared to education and social support.

- Social support was not a predictor of general health. Possibly because a majority had a strong support structure. M=2.63 (0-3 score).

- eHealth literacy can be improved through training with older adults as the primary beneficiaries.
Future Research

- Future research should examine the relationship between eHealth literacy and other health behaviors to assess the former’s impact.

- We need to understand the impact of eHealth literacy training programs among older adults as this group stands to reap the most benefits from using information technology to obtain health and medical information from the Internet to improve health and healthcare.

- Need to develop and provide appropriate ehealth literacy training to bridge divides – technology, healthcare, health outcomes
Discussion

- Benefits of promoting/training ehealth literacy
  - More knowledgeable in using information technology, computers.
  - Obtain relevant, reliable health information.
  - Understand science and logic of health research and findings.
  - Use content to make optimal decisions about health and healthcare.
  - Increase ehealth-literate population segments.
  - Promote a healthy population.
Benefits of an eHealth literacy training program

Ehealth literacy training → Smart Internet search → Smart decision making re health, healthcare → Healthier Population

Healthier Population

Syracuse University
References


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