

Print and Online Medical Information Resource Efficacy in the Senior Population.

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Introduction

- 59% of senior citizens are categorized as having basic or below basic health literacy. (NAAL, 2003)
- Electronic health information tools are widely used and available; however, the lowest reading level is written at a grade average of 10.7 (NIH) and the highest at 14.6 (Wikipedia). The suggested average is between 6-7 grade. (Hutchinson et al., 2018)
- Appropriate literacy level resources for seniors are available in print through The Institute for Health Care Advancement and their book “What to Do for Senior Health,” but the content is limited. The NIH has the most content available at a more appropriate level, however, it does not meet the 6-7 grade standards and is not often sought out as a source of information in the senior community.
- Seniors have limited access to and knowledge of how to use the internet.
- Online search engine results for health information are often hard to understand, from unreliable sources, do not suggest appropriate treatments, (Kothari, 2015) and at times the suggested treatments are dangerous or even deadly. (Bickmore et al., 2018).

Methods

- Small group training programs for how to use the book “What to Do for Senior Health” and how to use the online medical database MedlinePlus.org were developed and implemented in a senior citizens center.
- A pretest and posttest of knowledge gained was performed for both programs, along with a questionnaire on perceived usefulness of the information, websites frequented for health information, completed grade level, and frequency that physicians provide explanations to questions.

Results

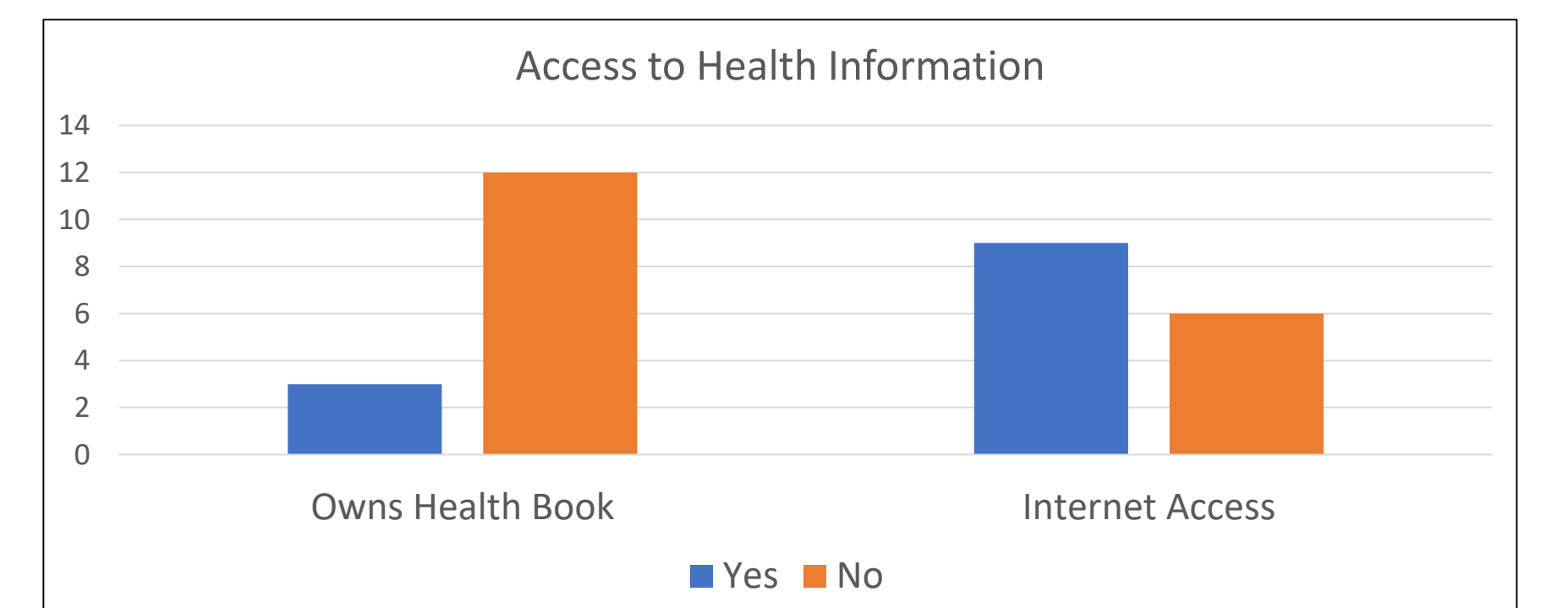
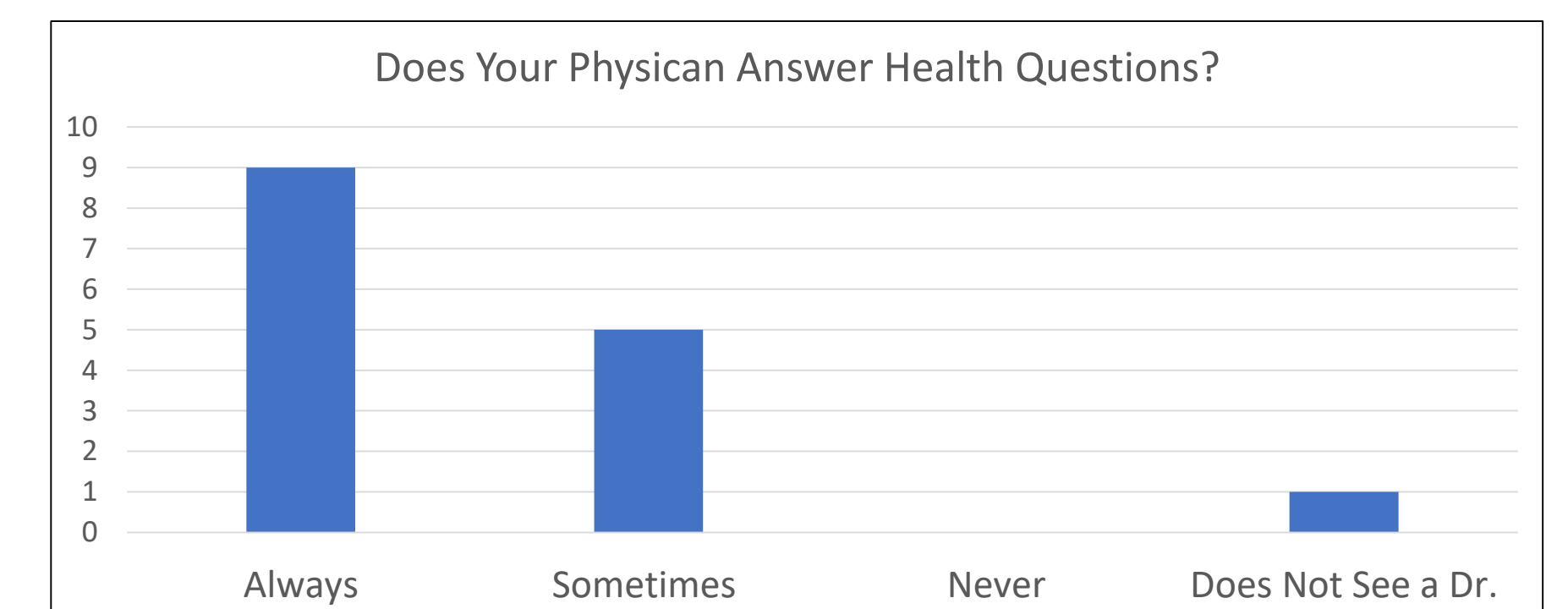
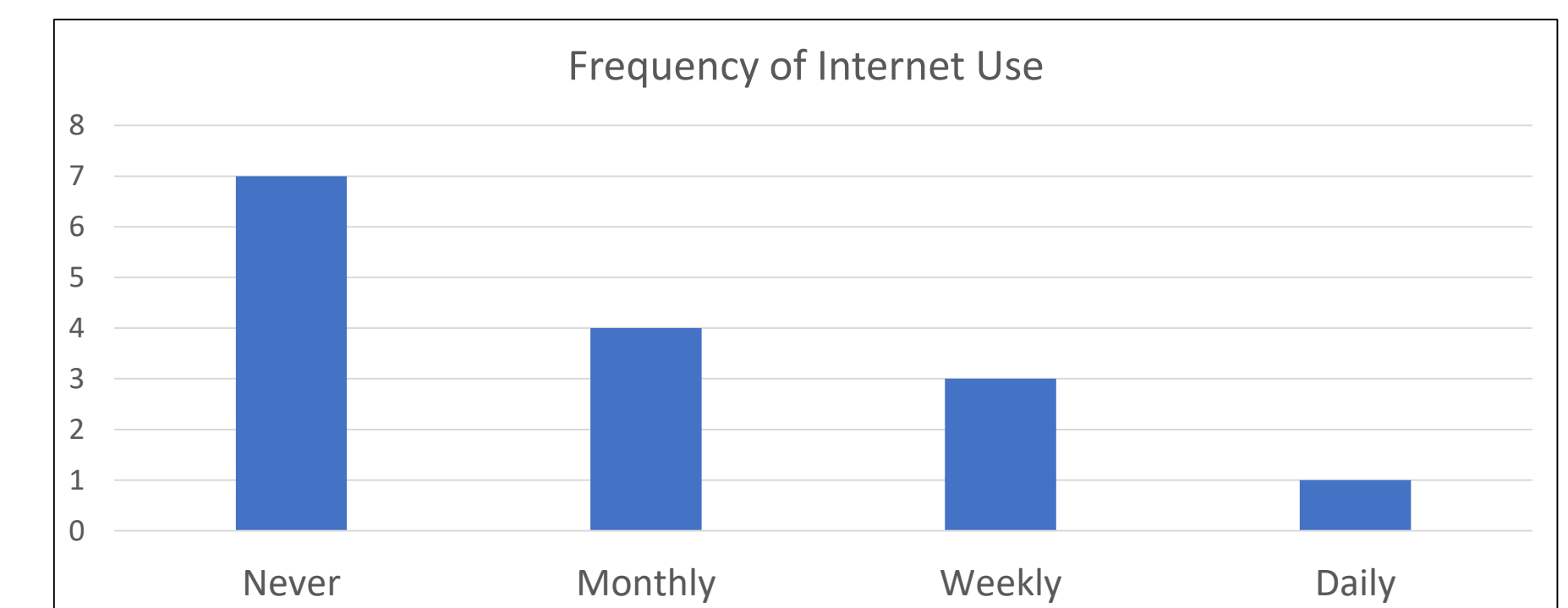
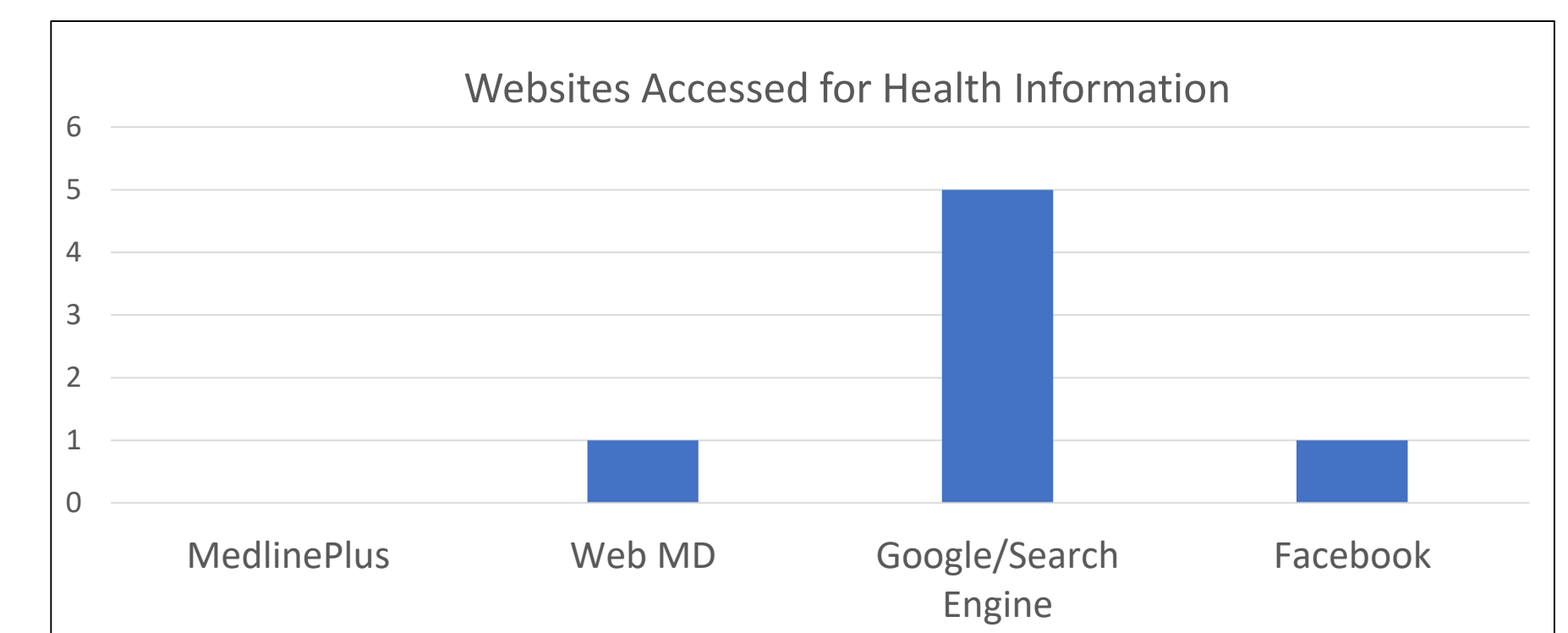
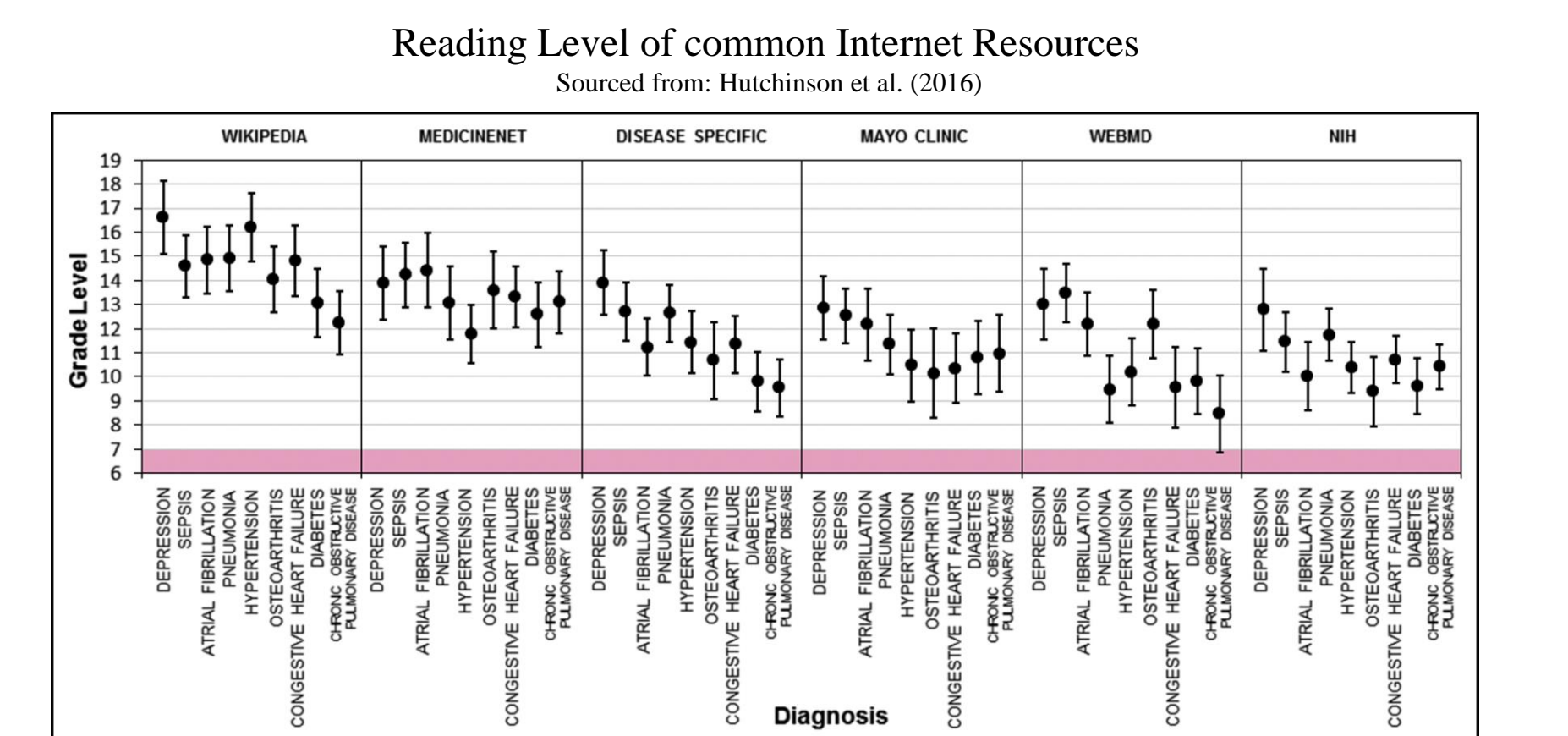
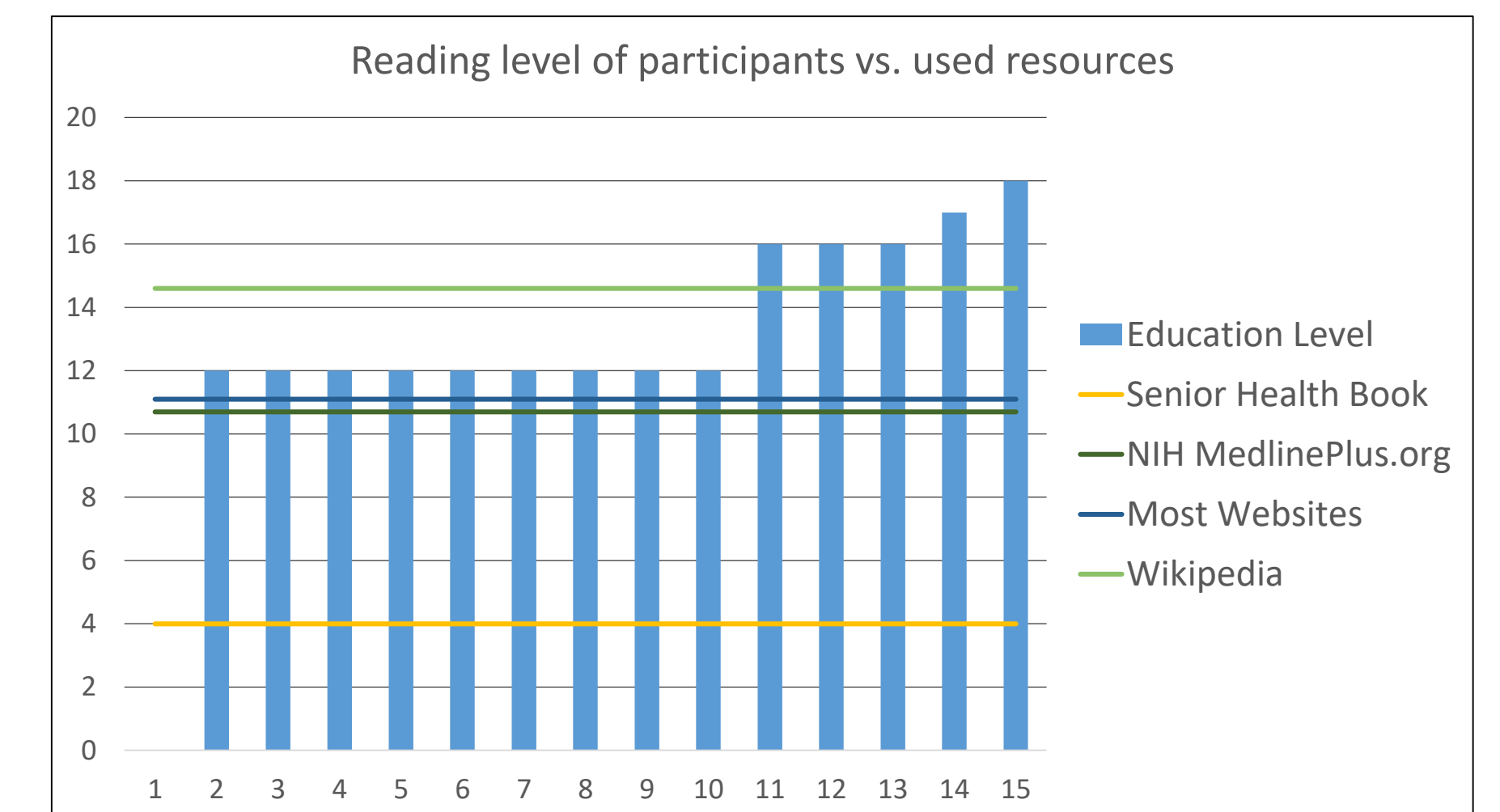
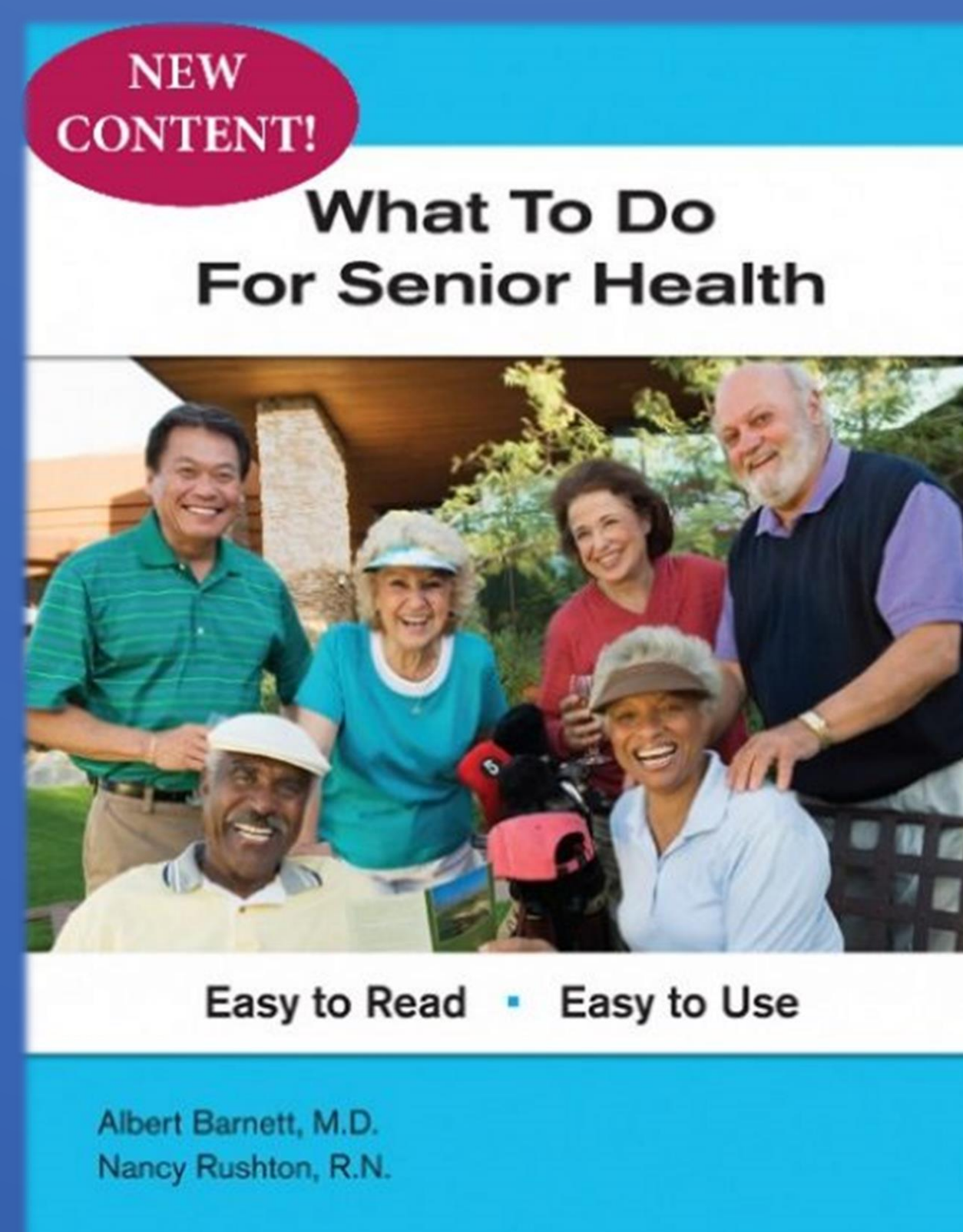
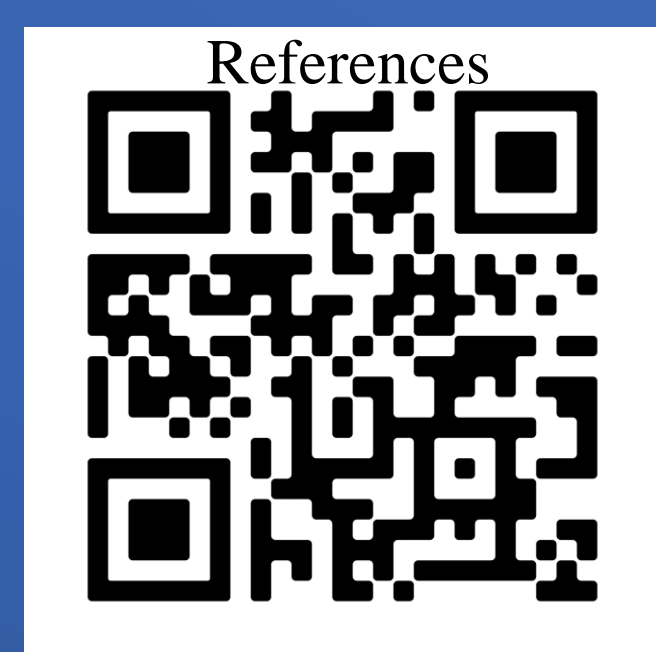
- The hypothesis that an improvement in the accuracy of participants’ ability to answer basic health and wellness questions using the book “What to Do For Senior Health” would be observed and was measured by a pre and posttest then evaluated with a paired sample t test with $\alpha = .05$. Pretest accuracy ($M = 2.47$, $SD = 1.13$) was significantly lower than posttest accuracy ($M = 3.33$, $SD = 0.82$), $t(14) = 2.16$, $p = 0.048$, $d = 0.558$, one-tailed.
- Health knowledge improved by 21% through using the book to answer basic health and wellness questions.
- Participants reported physicians always explain medical information in a way they could understand 60% of the time, 33% reported physicians sometimes explained information, 0% reported physician never explaining information and one individual stated they had never been seen by a doctor.
- 20% owned a health information book. 60% have internet access at home.
- Frequency of internet use was: 47% never, 27% monthly, 20% weekly, and 1% daily.
- Websites reportedly used for medical questions: MedlinePlus: 0%, Wikipedia: 0%, Mayo Clinic: 0%, WebMD: 1%, Google/search engine: 33%, Facebook: 1%

Discussion

- Google had a task failure rate of 51.8%. Presented information could cause potential harm 15.5% of the time and had a 5.4% chance that the instructions could result in death (Bickmore et al., 2018). “The information about the treatment could be incomplete, frequently written by nonexperts and with commercial objectives.” (Kothari, 2015, para. 11)
- Of nearly 70 individuals approached, only 15 agreed to participate. The average education grade level completed by participants was 12th grade.
- Only one individual participated in the MedlinePlus.org portion due to internet connectivity failure at the senior center. This individual accessed the website using a mobile device.
- Public programs should be implemented to educate on the existence of appropriate medical information databases, the dangers and bias of searching medical information online, and to always discuss the relevance of findings with a healthcare team.

Senior citizens show improved ability to answer basic health and wellness questions when provided with a reference book that is written at a 3rd-5th grade reading level.

Seniors experience a variety of health issues, beyond common and basic wellness. Health databases and resources are available online; however, seniors often lack reliable internet access. Furthermore, seniors rely primarily on search engines, which do not often yield appropriate results.



Pretest vs. Post test Results					
Paired Samples T-Test ▼					
Paired Samples T-Test					
		t	df	p	Cohen's d
post_acc	- pre_acc	2.162	14	0.048	0.558
Note: Student's t-test.					
Descriptives					
Descriptives					
	N	Mean	SD	SE	
post_acc	15	3.333	0.816	0.211	
pre_acc	15	2.467	1.125	0.291	