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Using social media to disseminate education about Alzheimer's prevention & treatment: a pilot study on Alzheimer's universe (www.AlzU.org)

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Abstract

Background—The use of social media may be a valuable tool for dissemination of patient education interventions. However, in Alzheimer's disease (AD), little data exists about the effectiveness, associated cost, or conditions for utilization.

Methods—Alzheimer's Universe (www.AlzU.org) is an online educational portal that provides evidence-based educational content for the public and a variety of activities related to optimizing

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Ethical approval

IRB approval was obtained from Weill Cornell Medicine (IRB protocol # :1311014539).

Disclosure statement

No potential conflict of interest was reported by the authors.

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AD management. The primary goal of our study was to assess the effectiveness of using the social media platform Facebook.com as a tool to recruit subjects to visit AlzU.org via targeted advertising and evaluate the associated costs. Secondary outcomes included AlzU.org join rates, lesson and activity completion rates, user demographics and attitudes about the education research platform.

Results—A total of \$706 generated 4268 visits to AlzU.org via a series of page posts promoted with targeted advertising to individuals with previously expressed interest in ‘Alzheimer’s disease,’ to those who had ‘liked’ the Alzheimer’s Association page, and followers of www.facebook.com/AlzheimersDisease. Advertising used different promotional taglines in the Facebook Advertising manager tool using ‘Cost Per Click’ and the ‘Optimized for Engagement’ settings. Across all strategies combined, 503 visitors joined AlzU.org (11.8% join rate), 412 engaged with at least one lesson/activity (82%), and 100 completed all available lessons and activities (19.8%). Users were primarily women (79.8%) and the most common age group was 50’s (43.3%, range 22–92). The majority joined AlzU.org to learn more about AD prevention or treatment (66.3% and 65.3%, respectively). Over 90% were satisfied with their experience.

Discussion—Subjects were quickly and cost-effectively recruited to AlzU.org. Completion rates of education content and activities were adequate, and subjects were highly satisfied with their experiences. Overall, targeted advertising on Facebook.com was an effective means of disseminating AD education online.

Keywords

Alzheimer’s education; Alzheimer’s caregiver education; Alzheimer’s prevention; digital health; Facebook; healthcare education; neurology education research; social media

ALTERNATIVE MESH KEYWORDS

alzheimer’s disease; prevention; health literacy; social media

Introduction

Internet-based educational interventions have the potential to help reduce and delay the global burden of disability of dementia due to Alzheimer’s disease (AD). Web-based educational interventions have been effective in eliciting behavioral change in a variety of common chronic medical conditions (e.g. depression, obesity) however these strategies have not been well-studied in AD, nor have they compared single strategies head-to-head, or addressed differences among learners [1–3]. Moreover, limitations exist with current measures of AD knowledge, including limits in scope and out-datedness [4].

Individuals at risk, and patients across the three stages of AD (Stage 1: pre-clinical AD, Stage 2: mild cognitive impairment due to AD, and Stage 3: dementia due to AD) may benefit from rigorously tested educational methods based on the wide range of evidence-based interventions currently available, and those yet to come. However, a key question for AD prevention education remains: if high-quality, effectiveness-proven, online educational interventions are developed, *will they be utilized?* Although the internet brings opportunity,

it is necessary to identify optimal strategies to disseminate content to those interested in AD prevention, and to better understand the target population's demographics, learning needs and strategies, and specific subtopic interests.

It is important to consider social media as a tool for recruiting users. Although the most efficient and cost-effective means of education is unknown, several studies have used Facebook.com and other social media channels to identify topics of interest to the public, uncover gaps in knowledge, provide educational adjuncts for patients, and initiate online discussions to foster engagement and information sharing in the community [5,6]. A report on the re-launch of the NIH's National Kidney Disease Education Program (NKDEP) highlighted the value of social media in building resources that directly target consumer interests [7]. The developers of the NKDEP, which offers comprehensive educational materials and resources for patients, caregivers, and healthcare providers, used software to identify conversations on chronic kidney disease (CKD) taking place in social media communities such as Facebook, Twitter, and blogs. This served as a type of needs assessment, providing information on what educational materials would be most valuable to users. Further, they established a presence on Facebook and Twitter to moderate discussions on CKD, but also to refer users to the NKDEP's resources. The NKDEP's social media presence has resulted in over 10,000 unique impressions and 600 shares of its content per month. Clearly, social media is poised to be a key player in health-related education for both patients and providers.

Yet, there is relatively little evidence of demonstrably effective neurology education [8]. Gaps have been uncovered in the quality of current educational resources available for AD patients and caregivers in the subject of nutrition [9]. There are few high-quality studies in AD education. One RCT focused on undergraduate medical education [10], and another on using health information technology to improve targeted delivery of AD educational tools for patients and healthcare providers [11]. The use of technology for educational behavior therapy interventions was studied in moderate AD and demonstrated improvements in activities of daily living (ADL) performance and mood [12]. A comparison of a standard website versus another geared for early dementia found that reduction of click choices helped participants focus on AD content [13]. Caregivers increasingly turn to the web for eldercare information and support [14] and family caregivers are more technologically savvy than non-caregiver peers (especially in terms of web/mobile usage). Given their propensity to actively seek education [15], it is important to deliver high-quality resources using contemporary platforms that appeal to these individuals and are easily accessible.

Evidence suggests that interactive web-based applications may engender deeper learning than does reading information, however this has not been rigorously tested in AD [16]. Interactivity is one of Pelz's three fundamental elements of success for achieving better online learning outcomes [17]. Interactivity constitutes any task that enables the user to interact with the software. The addition of an online, interactive educational webinar (including evidence-based interventions that may mitigate risk against cognitive decline) to a written-only (Alzheimer's Association pdf-pamphlet) curriculum led to significant improvements in medical knowledge in caregivers and family members of AD patients ($n = 750$) recruited via Facebook.com [18]. Investigators concluded that further studies were

warranted to assess effectiveness of, and user perceptions about, educational tools accessible across platforms (e.g. web, mobile, tablet), since a major limitation was mobile/tablet device inaccessibility.

To build upon this research and address unmet educational needs of individuals at risk for AD, we built Alzheimer's Universe (www.AlzU.org). [AlzU.org](http://www.AlzU.org) provides a technological platform to offer current and comprehensive evidence-based educational content, while also providing the tools necessary to study their effectiveness. Assessment is facilitated via a customized AD learning management system (LMS) and database (built within [AlzU.org](http://www.AlzU.org)). Measures are also recorded using features from a pre-existing LMS (Articulate Online) and AD clinical research tool, called the AD-Nutrition Tracking System (AD-NTS), which records longitudinal lifestyle patterns and can be used to evaluate outcomes [19]. Therefore, [AlzU.org](http://www.AlzU.org) is unique in that it serves as both a repository of educational materials, as well as an education research tool with the capability to both randomize users to different learning methods and track users' completion and learning outcomes. We developed the web-based platform and education materials using methods to optimize learning outcomes and user experience. For example, when users create an account, a welcome email is sent and they then choose an avatar image, which has been shown to enhance behavioral change [20]. [AlzU.org](http://www.AlzU.org) has been shown to significantly increase knowledge about AD and willingness to join AD prevention clinical trials and engage in risk-reducing behaviors [21].

In the current study, our primary outcome measure was to assess the effectiveness of using targeted advertising on Facebook.com to recruit subjects to visit [AlzU.org](http://www.AlzU.org) and evaluate the associated costs. Our secondary outcomes were rates of joining of [AlzU.org](http://www.AlzU.org), lesson and activity completion rates, user demographics and attitudes about the education platform.

Methods

IRB-approval was obtained from Weill Cornell Medicine.

Advertising Strategy

Using Facebook.com, a series of page posts asked users to volunteer to join [AlzU.org](http://www.AlzU.org). Posts were promoted with targeted advertising to individuals in the US, age 25+, with previously expressed interest in 'Alzheimer's disease,' or who had 'liked' the Alzheimer's Association page. Targeted advertising was performed using the Facebook Advertising manager tool, and divided into two campaigns with two different promotional taglines. Each campaign used a different method to bid for user clicks. In one campaign, we used the 'Cost per Click' method with bids starting at \$0.26 per click, and in the other, we used the 'Optimized for Engagement' setting, in which the Facebook Advertising Manager sets the bid most likely to obtain the most traffic for the lowest cost over time. The goal was to advertise until 100 users completed all available lessons and activities (Table 1) and post-survey (< 1 h, total).

Assessment measures and educational content

After joining [AlzU.org](http://www.AlzU.org), a pre-survey collected basic demographic information, health and lifestyle patterns (e.g. height, weight, exercise and dietary patterns), and computer use patterns. The user was then asked to complete two lessons focused on the AD Statistics and

Public Policy (Lesson 1) and the Stages of AD (Lesson 2) (Figure 1). Users were also asked to watch several short videos (e.g. Introduction to the Brain, Introduction to AlzU.org) and use the AD-NTS (www.alzheimersdiet.com/AlzU), which is a web-based platform that allows users to track information relevant to AD management online (e.g. medication, nutrition, biomarkers, exercise) [19]. After completing lesson and activity content, a post-survey assessed Likert-scale ratings on several website usability parameters and user satisfaction. Pre- and post-surveys are otherwise managed by Survey Monkey (surveymonkey.com). Tracking code was embedded in all pages on AlzU.org in order to be able to view visitor paths and click through on the site (via statcounter.com).

Results

Recruitment

Using a series of four page posts with two different promotional taglines, ad performance was reassessed every 3 days. The highest performing ads were continued and the lowest performing ads discontinued. A total of \$706 generated 1291 clicks to the AlzU.org join page. An additional 2977 visits were obtained through a variety of other sources, which showcased the virility of social media (e.g. post shares). Unique visits were obtained through Facebook News Feed announcements when users ‘liked’ www.facebook.com/AlzheimersDisease (all at no additional direct cost), and also through direct referrals when users forwarded welcome emails (sent after joining) to family and friends. Advertising budgets were titrated and eventually stopped once the pre-set goal of 100 users completing all lessons and activities (Table 1) was met.

Primary outcome measure

Advertising performance and costs

Advertisement 1 (Figure 2) used the tag-line ‘You can make a difference in the fight against Alzheimer’s in the next 30 min.’ It was promoted to an audience of 1.5 million (age 25+) and reached 54,000 individual impressions using Facebook’s Auto Optimized for Engagements method. We spent a total of \$357 (\$0.21/engagement, \$0.53/click), and obtained 772 post likes, 671 website clicks, and 89 post shares.

Advertisements 2 through 4 used the tag-line: ‘We Need Your Help! Advance Alzheimer’s Research & Learn about AD Online. Sign-Up Today.’ #2 was promoted to an audience of 1.9 million (age 25+) and reached 40,000 (Method: Cost per click, Bid = \$.26). Total spent: \$259 (\$.62/click); post likes: 672; website clicks: 412; post shares: 174. #3 was promoted to an audience of 1.5 million (age: 35+) and reached 9800 (Method: Auto Optimized for Post Engagements). Total spent: \$60 (.19/engagement, .50/click); post likes: 157; website clicks: 120; post shares: 37. #4 was promoted to an audience of 22,000 (fans of www.facebook.com/AlzheimersDisease (age: 35+) and reached 3200 (Method: Auto Optimized for Post Engagements). Total spent: \$30 (.10/engagement, .34/click); post likes: 142; website clicks from ad: 88; post shares: 50.

Secondary outcome measures

Response rates

Of the 4268 unique visits to AlzU.org (Figure 3), 503 visitors signed up for a user account (11.8% join rate). 412 completed at least one lesson or activity (82%), 269 completed the baseline survey (53.5%) which took ~5 min to complete, and 100 registered users completed all requested lessons, videos, and a post-survey (Table 1, 19.9% of registered users) which took < 30 min to complete for 49.3% of users, and 31–60 min to complete for 43.7% of users.

Demographics

Registered users were primarily women (79.8%) and the most common age group was 50's (43.3%), with a wide range in ages from 30's to 90's. In terms of relationship to AD, the largest single category of users identified themselves as children of patient with AD (58%), with next largest category having no personal connection to AD, but desiring to learn more (9.9%). 40.2% of users reported High School/Secondary as their highest level of education. 66.3% joined to learn more about AD prevention, and 65.3% joined to learn more about AD treatment. 58.2% use the internet > 10 h per week. 29.7% reported exercise < 30 min/week and the average BMI for all users was 27.3. 42.2% reported that 40%–60% of their dietary intake is composed of carbohydrates. See Table 2 for additional results.

Usage patterns

63.4% of the users viewed the course via a laptop or desktop computer (most common browser was Internet Explorer, 19.6%), and 31.2% used an iPad. Yahoo and Gmail were the most common email address used to signup (23.7%, each). See Table 3 for additional results.

Respondent ratings – pre-survey

Over 95% felt there was a great need for AD education efforts and use the Internet to read about health topics. 62% felt that they were unaware of the latest strategies that may reduce AD risk or delay its onset, and 69% felt unaware of the latest AD treatments.

Respondent ratings – post-survey

The vast majority of users were satisfied with their experience, with approximately 90% selecting 'strongly agree' or 'agree' to express they were glad they joined, liked the website, and planned on completing all 25 lessons upon launch. 79% felt they would use the AD-NTS.

Discussion

Using targeted Facebook advertising, we were quickly, and cost-effectively, able to recruit a sufficient group of AlzU.org users who were highly motivated to learn more about AD online. The most common reason for joining was to learn more about AD prevention, followed by AD treatment. Participation and response rates were adequate, which may have been a function of high inherent motivation to learn due to the immense emotional and personal toll the disease takes on both patients and family alike. The vast majority were

highly satisfied with their experiences on AlzU.org, and represented a wide range of ages. Children of AD patients were the most common users, and on the whole the group was tech savvy.

Prior to recruiting users to AlzU.org, our research team spent considerable time using the site in order to simulate the user experience. We found many correctable errors (e.g. email, browser and platform formatting issues, broken links, user flow issues) that were fixed before recruitment began. Testing on a broad range of devices and software is also essential for positive user experiences, and may have contributed to the favorable lesson and activity completion rates. We also carefully watched visitor paths and were able to proactively address common points of drop off (usually due to unclear instructions, or asking the user to do too many steps at once).

While cost of dissemination via advertising may be prohibitive in the long term, we capitalized on the strengths of social media virility by asking users to share the posts and website information with their friends and family. We also asked users to forward welcome emails to others who may be interested in learning more about AD prevention and treatment. The most successful and least expensive post engagement was by a direct post on a page with followers who had built a relationship with the page (www.facebook.com/AlzheimersDisease), which led to higher participation. Overall, a cost of ~\$7 per user to complete the first part of the introductory course was cost effective in the initial stages of development of AlzU.org.

Several issues require further investigation. While the goal of our study was to use Facebook as a tool to recruit users to join AlzU.org on the whole, we did not specifically consider the differential effectiveness of assorted message types, nor did we assess the effect of using page posts that were not boosted by paid advertisements or sponsored posts. However in this study, we have shown that recruiting users to an online AD educational platform via targeted Facebook advertising using the Auto Optimized for Engagement and Cost per click method is feasible. Additional studies are needed to examine whether more targeted and well-designed messages that do not use paid advertising are effective in recruiting users to AlzU.org.

While there has been progress in our understanding of managing the spectrum of AD, to our knowledge there have been no prior rigorous studies to assess strategies to share these advances with the public [22]. By connecting this information with the public, educational interventions have great potential to positively impact outcomes. Advantages to sharing tools online include large audience reach and improved access where local support is insufficient. It can take 15–20 years for knowledge generated by randomized controlled trials to be incorporated into standard care [23]. The rapid advancement of medical knowledge and growing complexity of the health care system has contributed to a gap between evidence-based care and current practices, with a need to find ways to narrow that divide. Collecting and disseminating effectiveness-proven educational tools, in parallel with scientific advances toward AD prevention, is essential toward minimizing this gap.

Based on data collected from users in this targeted advertising period, we were able to further refine AlzU.org and improve content structure and delivery for the remaining lessons and activities. Upon full public launch, the effectiveness of our course and available activities will be assessed over time. We aim to expand upon prior research and a web-based course on AD that promotes behavioral change (e.g. dietary and other brain-healthy lifestyle changes as measured by AD-NTS, likelihood to see a physician for AD risk reduction, and/or participation in a clinical trial), and improve medical knowledge about AD prevention, treatment, diagnosis, pathophysiology, and more (Figure 4). This research will provide critical information on how to most effectively deliver information about AD to those at risk and those already diagnosed, as well as contribute to the broader corpus of research on health education guidelines and theory. Development of easily accessible, effectiveness-proven educational tools to aid in patient care have the potential to have a positive impact on millions of individuals with AD, and the many more who are at risk.

If one type of educational strategy demonstrates superiority over another, or if certain learner types respond better than others, this will set the stage for better targeted, hypothesis-driven educational interventions. Longer term goals would be to integrate the most effective educational tools into the electronic health record for more reliable and timely delivery to patients at risk, or those diagnosed with AD. Further rigorous efforts toward assessing outcomes of educational interventions in AD prevention are indeed warranted.

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References

1. McCormack L, Sheridan S, Lewis M, et al. Communication and dissemination strategies to facilitate the use of health-related evidence. *Evid Rep Technol Assess (Full Rep)*. 2013; 213:1–520.
2. Rotherth K, Strecher VJ, Doyle LA, Caplan WM, Joyce JS, Jimison HB, et al. Web-based weight management programs in an integrated health care setting: a randomized, controlled trial. *Obesity*. 2006; 14:266–72. [PubMed: 16571852]
3. Mackinnon A, Griffiths KM, Christiansen H. Comparative randomised trial of online cognitive behavioural therapy and an information website for depression: 12-month outcomes. *Br J Psychiatry*. 2008; 192:130–4. [PubMed: 18245031]
4. Spector A, Orrell M, Schepers A, Shanahan N. A systematic review of ‘knowledge of dementia’ outcome measures. *Ageing Res Rev*. 2012; 11(1):67–77. [PubMed: 21983429]
5. Young SD, Jaganath D. Online social networking for HIV education and prevention: a mixed methods analysis. *Sex Transm Dis*. 2013; 40(2):162–7. [PubMed: 23324979]
6. Kofinas JD, Varrey A, Sapra KJ, Kanj RV, Chervenak FA, Asfaw T. Adjunctive social media for more effective contraceptive counseling: a randomized controlled trial. *Obstet Gynecol*. 2014; 123(4):763–70. [PubMed: 24785602]
7. Goldstein K, Briggs M, Oleynik V, Cullen M, Jones J, Newman E, et al. Using digital media to promote kidney disease education. *Adv Chronic Kidney Dis*. 2013; 20(4):364–9. [PubMed: 23809289]
8. McColgan P, McKeown PP, Selai C, Doherty-Allan R, McCarron MO. Educational interventions in neurology: a comprehensive systematic review. *Eur J Neurol*. 2013; 20(7):1006–16. [PubMed: 23551791]

9. Keller HH, Smith D, Kasdorf C, Dupuis S, Schindel Martin L, Edward G, et al. Nutrition education needs and resources for dementia care in the community. *Am J Alzheimers Dis Other Demen.* 2008; 23(1):13–22. [PubMed: 18276954]
10. Isaacson RS, Safdieh JE, Ochner CN. Effectiveness of a modified continuum curriculum for medical students: a randomized trial. *Neurology.* 2011; 76(2):125–30. [PubMed: 21220718]
11. Seifan A, Mandigo M, Price R, Galetta S, Jozefowicz R, Jaffer A, et al. Education research: can my electronic health record teach me something?: a multi-institutional pilot study. *Neurology.* 2013; 80(10):e98–103. [PubMed: 23460626]
12. Lancioni GE, Singh NN, O'Reilly MF, Sigafoos J, Pangrazio MT, Megna M, et al. Persons with moderate Alzheimer's disease improve activities and mood via instruction technology. *Am J Alzheimers Dis Other Demen.* 2009; 24(3):246–57. [PubMed: 19321883]
13. Freeman ED, Clare L, Savitch N, Royan L, Litherland R, Lindsay M. Improving website accessibility for people with early-stage dementia: a preliminary investigation. *Aging Ment Health.* 2005; 9(5):442–8. [PubMed: 16024403]
14. Kernisan LP, Sudore RL, Knight SJ. Information-seeking at a caregiving website: a qualitative analysis. *J Med Internet Res.* 2010; 12(3):e31. [PubMed: 20675292]
15. Fox, S, Brenner, J. Family caregivers online (Pew Research Internet Project). Washington DC: Pew Research Center; 2012.
16. Van Lehn K, Chi M. Adaptive expertise as acceleration of future learning: a case study. *Adap Technol Train Educ.* 2012; 17:28–44.
17. Council, H. Best practices in online teaching strategies. Washington DC: Academy Administration Practice; 2009.
18. Hughes T, Fu K, Fajardo M. Age-related memory loss and Alzheimer's disease: a randomized, interactive web-based educational intervention study. *Neurology.* 2013; 80:S27.006. [PubMed: 23319483]
19. Isaacson RS, Khan R, Ochner CN. Alzheimer's diet modification: a web-based nutrition tracking system for patient management and outcomes research. *J Nutr Health Aging.* 2012; 16(9)
20. Yoon G, Vargas PT. Know thy avatar: the unintended effect of virtual-self representation on behavior. *Psychol Sci.* 2014; 25:1043–45. [PubMed: 24501111]
21. Isaacson RS, Haynes N, Seifan A, Larsen D, Christiansen S, Berger JC, et al. Alzheimer's prevention education: if we build it, will they come? *www.AlzU.org. J Prev Alzheimers Dis.* 2014; 1(2):91–8. [PubMed: 28529932]
22. Oboudiyat C, Glazer H, Seifan A, Greer C, Isaacson R. Alzheimer's disease. *Semin Neurol.* 2013; 33(4):313–29. [PubMed: 24234352]
23. Institute of Medicine Crossing the quality chasm: a new health system of the 21st century. Washington DC: National Academy Press; 2001.

Lessons

0 Lessons In Progress 2 Lessons Completed 1 Awards Won 8 Activities Done

Introductory Course

General

LESSON 1A	Introduction & Overview of AD – Statistics and Public Policy	Completed January 30, 2015, 4:39 pm	Review Lesson	Review Quiz
LESSON 1B	Introduction & Overview of AD – The Stages of AD	Completed January 30, 2015, 10:12 am	Review Lesson	Review Quiz
LESSON 2	Overview of AD Risk Factors	Begin Lesson	Start Lesson	
LESSON 3	Diagnosis of AD	Not Yet Available	Start Lesson	

Figure 1.
AlzU.org Lesson Menu.

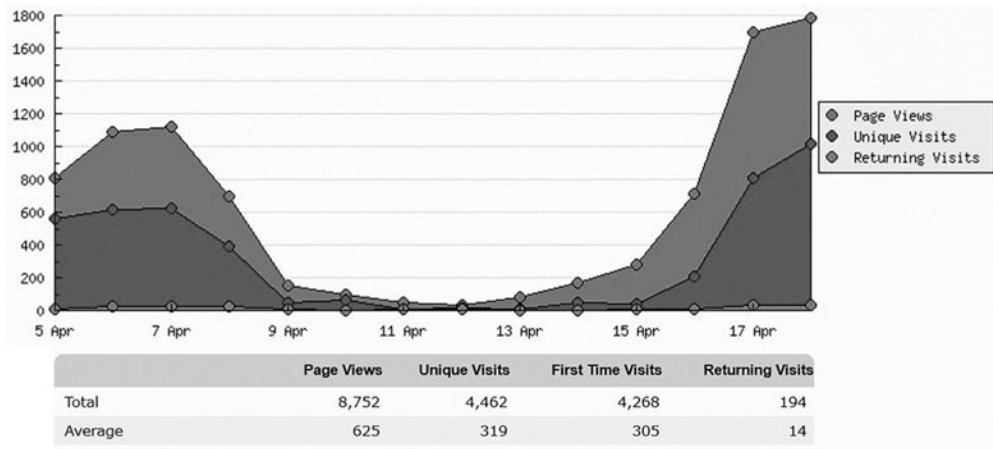


Figure 3. Page visits (tracked via [Statcounter.com](https://www.statcounter.com)).

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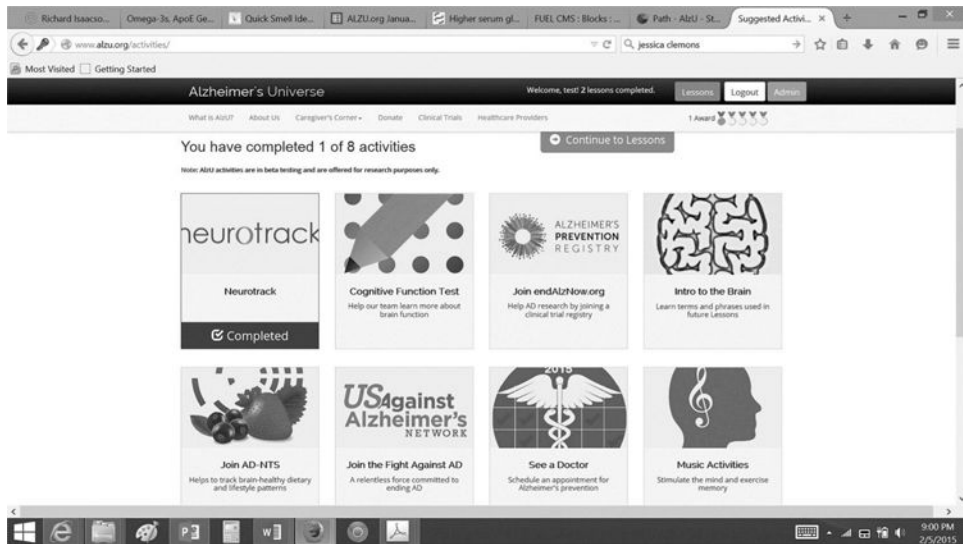


Figure 4.
AlzU.org Activities Menu.

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Table 1

AlzU.org lessons and activities.

Components and Approximate Length to Complete
1. Introductory Survey (5 min)
2. Introduction to Alzheimer's Universe video (5 min) <ul style="list-style-type: none">• overview of website, education research study, and instructions
3. Introduction to the Brain video (5 min) <ul style="list-style-type: none">• overview of terminology used in lessons
4. Lesson 1: AD Statistics & Public Policy (8 min)
5. Lesson 2: Stages of AD (based on the 2011 NIA/AA Criteria, 9 min)
6. AlzU.org Promotional Videos <ul style="list-style-type: none">• Video #1 (60 s, highly interactive)• Video #2 (90 s, less interactive)
7. AD-Nutrition Tracking System (AD-NTS) <ul style="list-style-type: none">• AlzU.org-integrated tool to facilitate outcomes research of lifestyle behaviors
8. Post-Survey (5 min)

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Table 2

Demographics.

Statement	Percent
<i>Sex</i>	
Female	79.8
Male	19.1
Prefer not to say	1.1
<i>Age</i>	
30's and below	5.5
40's	12.2
50's	43.3
60's	21.1
70's	16.6
80's	3.3
90's and above	1.1
<i>Relation to AD</i>	
Child of a person with AD	58.0
No personal connection to AD, but I want to learn more	9.9
Other relative of person with AD	9.4
Spouse or partner of a person with AD	7.7
Friend of a person with AD	6.1
Grandchild of a person with AD	5.0
Person with memory loss, but not AD	2.2
Person with mild AD	1.1
<i>Highest Level of Education</i>	
HS/Secondary	40.2
Postgraduate degree	24.1
Associate degree	18.4
Bachelor degree	16.1
Prefer not to say	1.1
<i>Exercise Habits (per week)</i>	
0–30 min	29.7
31–90 min	25.3
> 150 min	20.9
91–150 min	19.8
<i>Reason for Joining AlzU.org</i>	
To learn more about AD Prevention	66.3
To learn more about AD Treatment	65.3
Have/Had a Family Member with AD	63.2
To learn as much related to AD	57.9
To learn more about AD caregiving	46.3
Knows someone with AD	23.2

Statement	Percent
Unpaid caregiver of person with AD	13.7

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Table 3

Usage patterns.

Statement	Percent
<i>Devices or Internet Browser used</i>	
iPad	21.7
Computer – Internet Explorer	19.6
Computer – Google Chrome	13.0
Cell phone – iPhone	12.0
Computer – Firefox	9.8
Cell phone – Android (including Samsung, HTC, Sony, LG, Motorola)	8.7
Computer – Safari	7.6
Tablet – Samsung Galaxy	4.3
<i>Devices people will use to complete lessons</i>	
Laptop or desktop computer	63.4
Tablet (iPad)	31.2
Cell phone (iPhone)	16.1
Cell phone – Android (including Samsung, HTC, Sony, LG, Motorola)	12.9
Tablet (other)	10.8
<i>Email Service Utilized</i>	
Yahoo	23.7
Gmail	23.7
AOL	13.4
Hotmail	5.1
Verizon	3.0

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