

Images of Alzheimer's: A visual analysis of the imagery used to globally market Alzheimer's services online

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Abstract

Currently more than 46 million people are living with dementia globally (ADI, 2015). The World Health Organization (WHO) reports the worldwide population of persons 60 years of age and older will more than triple between 2000 and 2050 to two billion. The concept of Western patients receiving long-term dementia care in foreign countries is a new and emerging phenomenon (Gray, 2013; Pomareda, 2014; Wegerer, 2014). This study examines the visual images within Alzheimer's care facility websites (n=105) and uses a cross cultural comparison lens to contrast differences in patient representations and treatment facilities. The goal of this study is to analyze the differences in representations of Alzheimer's patients, their caregivers, and the visual representations of their skills, abilities, and environmental surroundings. Results from this study found that international regions vary the visual representations of Alzheimer's patients, providers, caregivers, treatment options, and types of social interactions (e.g., family, other patients). More multiculturalism and ethnic diversity was documented in memory care centers in the Southeast Asia and Western Pacific WHO regions. Discussion, limitations, and future directions are provided.

Key Words: Alzheimer's care, health promotion, persuasion, dementia, medical tourism

Introduction

The Alzheimer's Association (AA) reports that currently more than 5 million Americans are living with the disease (AA, 2014). According to the AA (2014) a woman in her 60s has a greater risk for developing Alzheimer's disease than receiving a breast cancer diagnosis. Dementia, as defined by Alzheimer's Disease International (ADI), is a "syndrome caused by progressive illnesses that affect memory, thinking, [behavior] and the ability to perform everyday activities" (ADI, 2014, p. 6). Alzheimer's disease is the most common subtype, accounting for an estimated 50-75 percent of all dementia cases (ADI, 2014).

In the 1970s, only 500,000 people suffered from Alzheimer's disease in America. Today, that number exceeds four million. By the year 2050 it's estimated that more than 14 million people in this nation will have Alzheimer's. Currently 44 million patients suffer from Alzheimer's globally, and that figure is projected to triple to 135 million by 2050. The Alzheimer's

Association estimates that in the U.S. alone, the disease will cost \$203 billion this year and swell to \$1.2 trillion by 2050 (MTA, 2014). The projected increase in Alzheimer's cases will create an enormous demand for dementia care providers and more assisted living facilities. In addition to building enough facilities to meet future bed capacity needs, a significant challenge for the future of dementia care will be to ensure quality health and memory care for all patients in all settings.

Alzheimer's is a difficult disease to diagnose. It is marked by the slow deterioration of a person's mental ability, followed by a dramatic physical deterioration, and ends with death. The scientific community does not know its cause, and the health care community is divided on treatment and care standards. Those afflicted with dementia need increasing levels of intensive care as time progresses. The growing need for care places a strain on family members and care providers. Dementia is a terminal condition. There is no cure and the effects are currently believed to be irreversible. It is important to

remember that many who suffer from Alzheimer's die with the disease, not necessarily from the disease. Following a diagnosis, an individual's life expectancy is unpredictable. The disease can continue to progress for a decade or more. Ultimately, if an individual living with Alzheimer's disease does not die from another condition, the consequences of the disease may result in death (Hughes, 2013).

This exploratory content analysis seeks to understand the visual communication strategies used to market and promote Alzheimer's care services online. This study is novel in that it provides an in-depth, narrow analysis of the online marketing and visual communication techniques utilized to promote services for a disease-specific condition, Alzheimer's. Given the (a) notable increase in aging populations of Western societies most prone to developing dementia in the form of Alzheimer's; (b) differences in cultural orientations related to health care and treatment; and (c) the continued increase in Western patients receiving Alzheimer's care abroad this investigation is warranted. The following section summarizes extant literature related to online health information seeking behaviors and social marketing principles in order to provide a framework for investigating this phenomenon.

Review of Literature

Health Information Seeking Behaviors

Health information seeking behavior represents intentional, active efforts to obtain specific information above and beyond the normal patterns of media exposure and use of interpersonal sources (Atkin, 1973; Griffin, Dunwoody, & Neuwirth, 1999). It includes interpersonal communication or the use of media specifically for a health-related topic. Examples could be watching a documentary or news program about disease treatment options, using Internet search engines to research health information, and/or raising specific health-related questions outside of usual conversational topics within interpersonal communication (Niederdeppe, Hornik, & Kelly, et al., 2007). Bass et. al. (2006) adds that health information seeking, whether through the Internet or traditional channels, generally reflects motivated behaviors. A health consumer's motivation may stem from a recent diagnosis or a new physical problem that fosters interest in self-care or caregiving. In turn, the role of health information seeking may be as a patient, a family member, a friend, or a caregiver.

As technology has advanced, consumers, patients, and caregivers frequently report accessing health-related information online. Van Knoop et al. (2003) found that more than 80 percent of people report

seeking health related information online. More recent data from Pew's (2012) Health Online poll found 72 percent of Internet users reported looking online for health information within the past year. Seventy-seven percent of online health seekers say they began their last session at a search engine such as Google, Yahoo!, or Bing while another 13 percent report they began their searches at sites that specialize in health information (i.e., WebMD). The most commonly-researched topics are: specific diseases or conditions, treatments or procedures, and doctors or other health professionals (Fox & Duggan, 2013). Persons diagnosed with Alzheimer's disease, their families and caregivers often seek online disease-specific information regarding health service providers (HSPs), advocacy groups, social support services, and treatment facilities. As late life transitions, care, treatments, and ultimately end of life decisions are considered, the opportunity must be embraced to explore the messages used to market and promote global health care services online. This study examines the visual images within Alzheimer's care facility websites and uses the World Health Organizations (WHO) regions of care as a framework for comparing the cross cultural differences in patient and provider representations as well as care facilities.

Social Marketing.

Health is a product that can be "negotiated and traded in international markets, where buyers and sellers enter into the negotiation of pricing strategies, invest in resources and develop marketing plans," (Dutta, 2008, p. 241). Within the industrial business model of health care are basic marketing principles that help guide practice. These social marketing principles include the six Ps: *participants, product, price, place, promotion, and partners*. Together these concepts provide a theoretical framework for organizing and planning marketing-related activities including: developing marketing strategies to define the target audience (participants), developing the message (product), managing time and trouble (price), improving accessibility (place), and working with partners (i.e., health care brokers, advocacy groups, community outreach programs, and website content developers). Each of these marketing elements will be further described below.

Participants The time and resource demand that Alzheimer's care places on families is significant. Patients, depending on the progression of the disease, have different levels of power to make legal and financial decisions, own and operate vehicles, and actively engage in choosing their health care options. Pyke (1999) previously examined the concept of power in relations to quality of care and found that in

individualistic families, aging parents exert greater power in determining choices for their care and living arrangements. In contrast, parents within collectivistic families have less power, yet have been reported to receive higher levels of care from extended family. Individualistic demands or expectations of power may strain relationships within a patient's family. Families of elderly persons with dementia, especially Alzheimer's disease, frequently turn to hospital and nursing homes in search of specialized dementia treatments. These families, often highly educated and in upper income brackets, are fueling a demand for high-quality tailored care for their Alzheimer's patient (Eubanks, 1988). In practical terms, the caregivers are the market. A caregiver is not always an adult child but may be an elderly, sometimes frail spouse or sibling (Moore, 2003).

Product. Moore (2003) argues that in the Alzheimer's marketplace there is a positional challenge in persuading audiences that a facility, care team, or health service provider (HSP) truly understands the specialized care that Alzheimer's patients require and further convince them that they can provide that individualized care in a healthy, safe environment. Moore describes two basic models that have emerged for offering Alzheimer's care: (a) *residential/social models* are designed for those seniors with early stage dementia. These seniors are in relatively good physical health, but need sheltered living and moderate levels of assistance with the activities of daily living; and (b) *medical models* are designed for seniors with more advanced stages of Alzheimer's, who have more complex health problems. These seniors require a nursing home-type setting. Both models of Alzheimer's care facilities often use visual images in their online marketing efforts to convey to audiences the quality of care services they offer.

As individuals seek information about Alzheimer's care online, the visual images on a facility's website can form a connection and draw people in to seek more information and ultimately move them toward actions as they are socially, economically, legally, and ethically motivated and able. Applied communication practitioners, including journalists, designers, advertisers, and public relations specialists, understand the importance of using visual elements to create a deeper connection between the message and the audience. "We live in a visual age ... when we want information, we say show me, don't tell me," (Harrower & Elam, 2013, p. 161). Harrower and Elam (2013) further note that "you have information; your readers need it; you must teach it to them as quickly and clearly as you can. Sometimes words work best. Other times, information is best conveyed visually, not verbally," (p.

161). Images give life and depth to text. They can stir emotional connections with audiences. They help people "get it" – the intended message of the media. A key consideration in visual frame analysis is how the image is presented to the audience. Media, health, and advertising researchers take note of framing effects because the manner in which information is presented can in fact, influence consumers' decisions and judgments toward products (Levin, Schneider, & Gaeth, 1998). Lazard and Atkinson (2014) found that visual elements in communication are important for processing persuasive message appeals and demonstrated that audiences will engage in deeper issue-relevant thinking when presented with information in visual graphic formats.

Place. The environment plays a critical role in a health service provider's (HSP) mission, residential design, and treatment approach. Each of these areas, therefore, serves as a promotional opportunity to market the patient-centered environmental design of an Alzheimer's HSP. A HSP's marketing is frequently structured to inform potential customers about the general benefits of treatment-oriented environments, and specifically to promote an organization as being well-qualified to provide therapeutic healing environments (Zeisel, 2003). The current analysis explores the environmental context of the images utilized in the online promotion of Alzheimer's care facility websites.

Price. The subject of high health care costs in Western societies has received much attention. Alzheimer's HSPs are expected to deliver high-quality, long-term, and consistent care, therefore an intimate understanding of the most desirable experience from a patient's and/or family's perspective helps HSPs' efforts to obtain a competitive advantage in a growing global market (Liu, Kim, Chen, & An, 2010). Lower prices have been found to be a powerful motivator of Western patients seeking specialized care services abroad such as stem cell therapy (Ryan, Sanders, & Wang et al, 2010), reproductive/fertility treatments (Martin, 2009), and Alzheimer's care services (Gray, 2013). "Faraway countries are offering cheaper, and to some minds better, care for those suffering from the irreversible loss of memory," (Ecker, 2014). Today some caregivers from Western societies are looking to the Philippines for less costly options that range between \$1,500 and \$3,500 USD per month, compared with the nearly \$7,000 USD on monthly average U.S. nursing care (Ecker, 2014).

Promotion. Individuals who are seeking information about Alzheimer's care facilities are those that have likely been impacted by the disease in some way. The Elaboration Likelihood Model (ELM) argues that people who are seeking initial information on an

issue can be influenced with a less complex persuasive appeal achieved by offering quick information, presented in a way that grabs audience attention with identifiable cues (Petty & Cacioppo, 1984). Audiences who are both motivated and able will then seek a deeper level of knowledge demonstrated by stronger engagement. This deeper level of persuasion can help facilitate attitude and/or behavioral change (Petty & Cacioppo, 1984). Incorporating images of people that are relatable to the audience helps establish identification, form connections, and facilitate audience engagement. These promotional images will serve as the primary units of analysis within this study.

One method of social marketing is to cultivate images and impressions of people. Visually persuasive appeals of provider and patient imagery can help to create a connection between the viewer and the desired attitude or behavior change targeted for persuasion. This strategy utilizes images to cultivate interest with, "easily recognizable, visually compelling images," (Baran & Davis, 2015, p. 280). In the Alzheimer's context, a caregiver viewing visually compelling imagery on a care facility's website may begin to form such a connection. Social marketing theory holds that once people have formed an impression with the visual images presented to them, they, "can be moved toward either a conscious decision or an unconscious prioritization or positioning," (Baran & Davis, 2015, p. 280). This stage of the process prepares people to form an impression and may lead to behavioral action. We argue that Alzheimer's patients, their families, and caregivers are accessing health information, social support opportunities, and available care options online and the images included in online advertising, education and promotional materials are influential in the learning and decision-making processes.

Partners. As previously noted, there are numerous recipients for these types of persuasive appeals who are expected to make health-related Alzheimer's care decisions. Spouses and relatives in Western nations are increasingly confronting the challenge of caring for dementia patients. The number of Alzheimer's patients and costs of care have risen significantly, while the supply of qualified nurses and available facilities struggle to meet the demand (Ecker, 2014). Thus intermediaries such as health care brokers, health care facilitators, and international patient coordinators are important strategic partners for many HSPs today. Based upon this review of the online marketing principles related to Alzheimer's care the below research question is offered.

RQ1: What are the general characteristics of the provider and patient representations used to market Alzheimer's services online?

Culture, Media, & Alzheimer's Stigma

There is a particular fear associated with developing Alzheimer's disease. This fear is most prevalent in the elderly population and in people with self-determined poor health. The fear is especially high among Alzheimer's disease caregivers (Cantegreil-Kallen & Pin, 2012). In addition to disease-specific fear, there is also fear of dying in institutional settings, specifically nursing homes. Institutional care facilities are often perceived as being depersonalized for residents, focused mainly on the convenience of the staff, and dedicated to the benefit of the business model (Kearl, 1996). Beyond the public fear and anxiety toward Alzheimer's disease there is also stigma associated with the disease.

Crocker et al. (1998) defines a stigmatized individual as "possessing (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context," (pg. 505). Alzheimer's patients are often the targets of cultural stigmas related to aging, death, and dying. In modern Western societies, death, and aging are perceived with anxiety and fear. In individualistic cultures, otherwise known as 'death-denying' societies, the process of aging embodies a negative connotation. Gray hair is colored. Age spots are digitally retouched out of images. Wrinkles are smoothed with injections of toxin. These individuals often perceive and equate aging with death.

In contrast, many non-Western, collectivist societies view death as natural and a revered part of the lifecycle. There is a collective sense of obligation to support older family members. For example, in Turkey, a country identified as demonstrating collectivism in general, respect for aging parents is great, and filial responsibility is an expectation. Relatives are expected to take on the responsibility for caring for older adults (McConatha et al., 2004). These cultural expectations are present in many other cultures as well. Generally family units in collectivist societies are multi-generational, and the needs of the group are placed above the needs of the individual group members. McConatha et al. (2004) posits that some of these attitudes toward respect for aging results from a lack of urbanization, decreased availability of technology and less modernization compared to other advanced industrial societies. Given the differences in cultural orientations toward aging, death, and dying HSPs are

anticipated to vary the imagery selected to market Alzheimer's care globally.

Over two decades ago Joyce (1994) identified opportunities for framing the concept of aging and death in media and society, and warned against presenting images of those in slow decline in a negative light. Joyce cautioned against perpetuating a fear of aging, 'gerontophobia,' and instead called for marketing of aging from a different perspective—focusing on the many active aging people in society. In the context of dementia, Joyce's warning has gone unheeded. Mental illness in general is portrayed in fictional films and television in a manner that perpetuates negative perceptions (Perkis et al., 2006). Mental health professionals have also been portrayed negatively in films. The cumulative media effect on the public's perception of mental illness can further stigmatize people diagnosed with mental illness, as well as the HSPs that treat patients (Perkis et al., 2006).

Sensationalized representations of dementia are prevalent in both traditional and tabloid newspapers. Journalism is essentially a form of storytelling. Almost every news source on any given day has a story that relates to health in some aspect (Gasher et al., 2007). Media distribute the stories that often shape what we talk about. Extant literature has found that stories that relate mental illness with crime and violence are given more exposure than positive articles (Anderson, 2003). As media outlets are sharing stories of health and health-related issues, the audience is exposed to repeated themes and narratives about Alzheimer's disease and mental illness. A five-year study analyzing the content of news reports that included the word 'Alzheimer's' revealed that the media perpetuated negative stereotypes associated with aging and dementia (Kirkman, 2006). Additional research has documented that traditional media representations tend to focus on the later stages of the disease, which then becomes representative in the mind of the general public for the entire disease process (Van Gorp, Vercruysee, & Van den Bulck, 2012).

Print-based media often emphasizes the difficulties of caring for aging parents and cultivates stigma existing in individualistic societies, thereby creating public fear of Alzheimer's disease and dementia. Media reports that focus on the extremes of the disease may also cultivate fears of caring for a person with dementia. Van Gorp, Vercruysee, and Van den Bulck (2012) found that audience perceptions of Alzheimer's disease in print advertising in Belgium were perceived to be more credible, easier to understand and more attention-grabbing when they actually perpetuated a fear of death and degeneration, as opposed to pro-

social representations of Alzheimer's patients (e.g., social interaction through card play, group based music therapy, etc.). Negative stereotypes of Alzheimer's disease not only impacts the person diagnosed with the disease but also the individual's family, caregivers, and medical professionals (Werner & Heinick, 2008). Family and caregivers report decreased social interaction, guilt, and anxiety about social role performance. These negative stigmas of dementia patients are cultivated in mass media, and in scholarly writings. Behuniak (2011) investigated the 'zombification' of people diagnosed with Alzheimer's disease and argues dehumanization results from, "strong negative emotional responses," to Alzheimer's patients based on disgust and terror in society (p. 70). Among the zombie-like stereotypes and characteristics are: physical changes, lack of self-recognition, inability to recognize others and the horror of those not affected (Behuniak, 2011). These embodied characteristics can result in a cultural terror that makes death a preferred alternative to suffering the final stages of the disease.

The manner in which the general public views people diagnosed with Alzheimer's disease can impact how treatment facilities are perceived. Differing cultural orientations toward aging may also impact how patients and treatment facilities are promoted. It is for these reasons that this analysis seeks to explore the differences in how Alzheimer's patients are represented globally. These visual representations are important components of the persuasive appeals included in the marketing process for Alzheimer's care services. Based on this literature regarding review social marketing theory and cultural orientations toward aging the following research question is offered:

RQ2: In what ways do websites promoting Alzheimer care services differ the visual representations of (a) tone; (b) environment; and (c) patient-provider care representations?

Method

Website Selection

Prior to data collection the researchers defined a website as the unit of analysis. For the purposes of the examination, the term "website" was defined as a collection of pages or files linked together and available on the World Wide Web. Any hyperlink which would take the researcher from the original website was omitted from consideration. With the absence of standardized protocols for sampling web content and in order to develop a sample frame the lead authors relied on a variety of online search engines to locate and identify

international Alzheimer's care facilities (e.g., Yahoo!, Google, & Bing). This method is recommended, as this search process is most germane to the ways that health information seekers may acquire information online about Alzheimer's. Many of the units of our analysis use the terms "dementia care," "memory care," and "Alzheimer's care" interchangeably; therefore, we also use these terms interchangeably in this manuscript when referring to health service providers (HSPs), individual care providers, and treatment facilities.

Inclusion criteria consisted of: (1) content formatted in English language, (2) accessibility/ease of navigation (e.g., no pre-registration required), and the (3) presence of visual imagery. As with similar studies, the World Health Organization's (WHO) geographic regions (e.g., American, African, Eastern Mediterranean, European, Southeast Asian, and Western Pacific) were used as a framework for comparing regional differences in the visual representations (Mason & Wright, 2011, Mason, Wright & Bogard, 2011).

A total of 105 websites are included in this analysis. These units represent the African region (AFRO) $n=20$ (19%); American region (AMRO) $n=21$ (20%); the European region (EURO) $n=18$ (17%); the Eastern Mediterranean region (EMRO) $n=5$ (4.8%), the Southeast Asian region (SEARO) $n=24$ (23%), and the Western Pacific region (WPRO) $n=17$ (16.2%). Approximately 25% of the sample ($n=23$) were coded to establish the intercoder reliability calculations documented below.

Image Selection

Two coders analyzed the largest picture on the home page of the website. If flash technology was incorporated, coders were instructed to code the first image to appear in the first 5 seconds which fit on the computer screen in its entirety. The analysis of imagery excluded logos, advertising banners, or unrelated imagery not meant to visually-support the Alzheimer's related information from the source of the site. Only 2.9% of the identified sample ($n=3$) did not fit into the content analysis coding design. These sites used graphics and organizational logos as the dominant image on their websites and were excluded from the sample.

Just as the images of print newspapers possess photographic dominance meant to attract attention and have a strong impact on readers, coders solely assessed the dominant characteristics of the main page image for two reasons: 1) main page content draws viewers to the subsequent pages, and 2) website visitors would be exposed images on the main page even if they didn't seek additional information through

linkage (Mason & Wright, 2011; Ribisil et al., 2003). If more than one patient was noted within the image, the coders were instructed to code the individual farthest to the left in the picture and to include the second, third, and potential fourth individuals in an "additional patients" category.

Coders were instructed to assess a variety of variables including: the patient demographic representations, tone, care provider representations, and the surrounding environment context. Reliability for these measures was established by calculating Scott's Pi, which discounts the level of observed agreement from the level of expected agreement due to chance, and is the standard for determining the intercoder reliability of nominal data in communication studies (Potter & Levine-Donnerstein, 1999). The evaluation and coding of the visual content are consistent with previous analyses of health-related information (Clarke, 2006; Friedman & Hoffman-Goetz, 2003a; Friedman & Kao, 2008).

Patient Demographics. Sex was coded as (a) male, (b) female, (c) N/A, and (d) unknown ($\alpha=.98$). Ethnicity was coded as either (a) Caucasian/white, (b) African/black, (c) Latin/hispanic, (d) Asian, (e) Indian, (f) other, and (g) unknown ($\alpha=.94$).

Tone. Tone was categorized as positive (e.g., patients receiving care, or patients interacting with other patients, and/or with family), negative (e.g., a patient alone or isolated), or neutral (e.g., external images of facilities). Reliability was established at ($\alpha=.86$).

Care Provider Representations. An important indicator of quality dementia care is "a commitment to continuity of care by having the same compassionate and kind caregivers work with the same residents daily," (Todd, 2002, para 4). Representations of care providers' sex and ethnicity were coded similar to that of patients. Additionally the professional identities of care providers were classified as: (a) nurse, (b) doctor, (c) staff, or (d) other ($\alpha=.90$).

Context. The surrounding environment was coded as (a) inside a facility (b) outside a facility, and (c) other ($\alpha=.97$).

The following section details the findings as they relate to the specific research questions advanced in this study.

Report of Findings

In order to understand the persuasive visual appeals used to promote Alzheimer's care services globally and how these appeals differ cross-culturally within international Alzheimer's facility websites several nonparametric statistical tests were computed.

RQ1 sought to understand how visual representations of patients and health care providers are integrated into the marketing process through international Alzheimer's websites. In order to answer this a series of Chi-squares were computed on the categorical variables of WHO region and *patient sex* $\chi^2(5,58)=4.58, p=.46$, *care provider sex* $\chi^2(10, 29)=4.58, p=.92$, *care provider professional role* $\chi^2(20,30)=25.58, p=.18$, and no significant differences were found. We found most regions use visual imagery of female patients (i.e., African region 60%; Southeast Asian region 73.7%; European region 87.5%; Western Pacific region 54.5%) receiving care from female caregivers

(i.e., African region, 83.3%; American region, 50%; Southeast Asian region, 81.8%; European region, 66.7% & Western Pacific region 67.6%).

The Chi-square test indicated that there were significant differences between the WHO regions of care and *patient ethnicity* $\chi^2(30, 60)=86.13, p<.001$ and *provider ethnicity* $\chi^2(20, 30)=42.46, p<.05$. Analysis of the findings presented in Table 1 below indicates Alzheimer's centers in the Southeast Asia region significantly differed their patient representations in that they more frequently utilized imagery of a variety of multicultural patients' identities.

Table 1 Differences in Patient and Provider Ethnicity Among WHO Regions

Patient Ethnicity	AFRO	AMRO	SEARO	EURO	EMRO	WPRO
White/Caucasian	7(5.0)	7(4.0)	4(9.5)	5(4.5)	0(1.5)	7(5.5)
*African	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Asian	0(1.3)	0(1.1)	4(3.5)	0(1.2)	0(.4)	4(1.5)
Indian	0(1.7)	0(1.3)	10(3.2)	0(1.5)	0(.5)	0(1.8)
Other/Unknown	3(1.7)	1(1.3)	1(3.2)	4(1.5)	1(.5)	0(1.8)

Note: Count frequencies are followed by expected frequencies in parentheses.

* Insignificant quantity for inclusion in study

Provider Ethnicity	AFRO	AMRO	SEARO	EURO	EMRO	WPRO
White/Caucasian	2 (0.1)	0(0.3)	1(1.8)	1(.7)	0(.2)	1(1.0)
African	2(0.4)	0(0.1)	0(0.7)	0(.3)	0(.1)	0(.4)
Asian	0(1.4)	1(0.5)	1(2.6)	0(.9)	0(.2)	5(1.4)
Indian	0(1.4)	1(0.5)	7(2.6)	0(.9)	0(.2)	0(1.4)
Other/Unknown	2(1.8)	1(0.6)	2(3.3)	3(1.2)	1(.3)	0(1.8)

Note: Count frequencies are followed by expected frequencies in parentheses.

RQ2 sought to understand how, if at all, the visual imagery of tone and environmental context varied between the Alzheimer's representations of HSPs operating within the World Health Organization (WHO) regions. In order to answer this research question a Chi-square was computed with the variables of WHO region and *tone* which was represented as either positive (i.e., receiving care/treatment, interacting with other patients, with family); neutral (i.e., external/structural representations of the facility); and negative (i.e., alone/isolated). Results presented below in Table 2 indicate that patient representations significantly varied $\chi^2(20,59)=15.95, p<.05$, while the physical environment $\chi^2(10,69)=10.74, p=.38$ did not.

Table 2 Differences in Patient Representations & Care Environments

Tone	AFRO	AMRO	SEARO	EURO	EMRO	WPRO
Receiving Care	3(3.7)	2(3.0)	8(5.1)	4(3.0)	1(1.1)	4(4.1)
Socially Interacting	2(1.9)	1(1.5)	4(3.5)	0(1.5)	1(1.6)	3(2.1)
With family	0(2.0)	4(1.6)	3(3.9)	2(1.6)	0(0.6)	3(2.2)
Alone/Isolated	4(2.0)	1(1.6)	3(3.9)	2(1.6)	1(0.6)	1(2.2)
Other/Unknown	1(0.3)	0(0.3)	1(0.6)	0(0.3)	0(0.1)	0(0.4)
<i>Physical Environment</i>	AFRO	AMRO	SEARO	EURO	EMRO	WPRO
Indoor	6(7.6)	5(4.1)	11(10.7)	6(4.6)	2(1.5)	5(6.6)
Outdoor	9(7.2)	3(3.8)	10(10.0)	2(4.3)	1(1.1)	8(6.2)
Other	0(0.2)	0(0.1)	0(0.3)	0(0.0)	0(0.2)	0(0.2)

Note: Count frequencies are followed by expected frequencies in parentheses.

* Insignificant quantity for inclusion in study

The Southeast Asian representations of patient ethnicities varied with 21.0% White/Caucasian, 21.1% Asian, and 52.6% Indian. These patients were frequently pictured receiving treatment from foreign care providers, primarily Indian (63.6%). Likewise the Western Pacific region, also known for developing, marketing, and offering high quality medical care to foreign patients utilized imagery depicting larger amounts of White/Caucasian patients (63.6%) compared to Asian patients (36.4%), while provider ethnicity remained dominantly (83.3%) Asian.

Of the data included in the sample frame, 31.4% utilized external architectural imagery as the dominant photo to visually promote their health care offerings. This data was coded separately from the other variables as the primary research questions were solely focused on the representations of providers, patients, environmental conditions, and care representations. The use of external architectural or structural related imagery was a dominant trend within the American ($n=13$, 39.4%) and European ($n=10$, 30.3%) regions analyzed. The regions tended to rely on the external appearance of the facilities opposed to the internal elements of the care environments. Alternatively, the African (40%) and Eastern Mediterranean (33.3%) regions represented the most negative tone and frequently integrated imagery that depicts Alzheimer's patients sitting alone, or isolated from others, generally in indoor environments with restricted mobility (i.e. wheelchair bound), compared to the Western Pacific (9.1%) and Southeast Asian (15.8%) regions. The Southeast Asian region often integrated imagery of patients receiving care (42.1%) or socially interacting with other patients (21.1%). These images reflected the most positive tone of the sites explored within the data set.

Discussion, Limitations and Future Directions

The goal of this study was to analyze the differences in representations of Alzheimer's patients, their caregivers, and the visual representations of their abilities and physical surroundings currently marketed online. Over 30% of the websites in the American and European regions utilized external pictures of the buildings and facilities as the dominant image to attract clients. This is similar to previous trends by Mason, Wright, and Bogard (2011) who found international medical tourism facilities (i.e., hospitals, clinics) rely on providing visual images featuring the state-of-the-art facilities in which they are based, as opposed to care provider representations, in order to attract international clientele.

Results from this study found a variety of differences in the visual representations of Alzheimer's patients, providers, caregivers, and types of social interactions (e.g., family, other patients). In Western societies the online marketing of Alzheimer's care frequently relies on the allure of the property, instead of lifestyle imagery of patients in social settings. The highest degree of multiculturalism and ethnic diversity was found in the visual elements of HSPs in the Southeast Asia and Western Pacific WHO regions. These areas were also more likely to use visual imagery showing patients outdoors and interacting with others around them, opposed to being alone and isolated.

These findings are helpful in understanding some general cross cultural differences in the visual communication strategies used to market Alzheimer's care services online; however, a notable limitation relates to the generalizability of findings within the WHO regions that were used in this sample. For example, most of the websites sampled from within the African

(AFRO-WHO) region were facilities that offered medical care services primarily within the country of South Africa. We believe access to this data resulted from several factors including (1) the country's utilization of Internet and mobile technologies, (2) the country's acknowledgement of the disease cause as being one that is bio-medical not spiritual, and (3) the growing number of individuals afflicted with the condition which has recently motivated increased public awareness and education. We do not believe these specific findings can be generalized throughout the entire African WHO region, and further acknowledge that spiritualistic worldviews toward care and treatment are dominant among many tribal groups within different countries throughout Africa. Both the African and the Eastern Mediterranean regions faced this limitation. Additionally it is unknown if a larger sample size would have revealed similar patterns or differences in the patient, provider, or environmental imagery of Alzheimer care facilities, but we hope these findings spur further inquiry.

Although there are some limitations, these findings may be beneficial to those involved in health literacy, patient advocacy, and/or health communication campaigns. Combatting negative stereotypes and stigma requires a long-term, sustained, coordinated effort. Improved knowledge and understanding about Alzheimer's disease has been found to benefit both caregivers' and patients' well-being. Extant literature recognizes the need for additional education and awareness related to dementia treatment. Sullivan and O'Connor (2001) were successful in educating participants on, "diagnosis, prognosis, treatment, planning for the future and managing behavior," (p. 5). The results of that study showed that after exposure to educational materials an improved understanding of the disease was measurable. Applied communication practitioners need to develop more effective caregiver campaigns that address the specific psychological, emotional, and behavioral issues facing Alzheimer's caregivers, especially those who are in the early stages of disease management and who may lack social, financial, or legal support. These individuals are often targets of online marketing by Alzheimer's HSPs.

The concept of Western patients receiving long-term dementia care in foreign countries is a new and emerging phenomenon (Gray, 2013; Pomareda, 2014; Wegerer, 2014). Because of the specialized nature of care required for those suffering from Alzheimer's it is not uncommon for patients to lose legal rights related to: motor vehicle operation, financial independence, and durable power of attorney. Additional research into the legal and ethical implications for this practice may be of interest to a wide variety of scholars from a broad range

of disciplines including: public health officials, applied health communication practitioners, those working in health policy and promotion, and health literacy.

Recent work has identified some specific message considerations that may help inform educational media campaigns regarding Alzheimer's (i.e., specialized education campaigns should be directed differently at different age groups) (Cantegreil-Kallen & Pin, 2012). Nonetheless, academic understandings of the messages, content, channels, and effects of Alzheimer's promotional materials and their persuasive appeals are underrepresented in current health communication literature. Applied health communication practitioners need to focus on investigating messages which promote the vital role of social interaction, specifically how activity groups provide opportunities for increased control (or the feeling of control), and opportunities to improve applied patient health communication through social interaction.

Previous research has noted when education and social activity group interventions are implemented together the strategies can alleviate negative impacts of Alzheimer's disease such as isolation and loneliness, widely documented to impact both patients and caregivers (Cattan et al., 2005).

Conclusion

In 2012 the U.S. Department of Health and Human Services announced an effort to formulate a national action plan against Alzheimer's disease "which aims to come up with effective treatment and prevention strategies by 2025," (Wang, 2012). Until that time patients, caregivers, members of the medical community, and health care organizations will continue to address the health issues facing aging populations worldwide, therefore it is important that we continue to analyze the persuasive appeals advanced by international medical facilities offering health care services abroad. This study found global regional differences in the way that the demographics, skills, and physical abilities of Alzheimer's patients are promoted online.

Caregivers to Alzheimer's patients may find themselves in situations that require difficult ethical choices, for which there may not be easy answers. Families may find themselves considering overseas care options due to a lack of access to care, or the increasing costs of Alzheimer's care within the U.S. The health community as a whole needs to work together to ensure that these individuals are aware of the pragmatic, legal, ethical, and long-term implications for patients afflicted by this disease, and who are often reliant on legal guardians for their health care, and end of life decisions.

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