

EVALUATION OF MSU CAM HEALTH LITERACY
SCALE WITH OLDER ADULTS

by

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DEDICATION

I would like to dedicate this document to Wade, Taylor and Hannah. This adventure would not have been possible without your love and encouragement. Thank you for all your understanding and patience during the late nights and crazy weeks. I find strength in all of your support and share this accomplishment with all of you.

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TABLE OF CONTENTS

1. INTRODUCTION 1

 Background and Significance 1

 Complementary and Alternative Therapies 3

 Purpose of the Study 5

 Conceptual and Theoretical Framework 6

 Definitions 9

 Assumptions 9

2. LITERATURE REVIEW 10

 Health Literacy and How It Has Been Measured 10

 Rural Adults and Their Health Seeking Behaviors 15

 Complementary and Alternative Therapy Use 17

 Complementary and Alternative Medicine Health Literacy 20

3. METHODOLOGY 22

 Design 22

 Population and Sample 23

 Data Collection 23

 Instrumentation 24

 Data Management and Analysis 26

 Rights of Human Subjects and Consent 26

4. RESULTS 28

 Demographics 28

 Assessment of the MSU Health Literacy Scale 30

 Correlation and Reliability 32

 CAM Use Among Older Rural Participants 32

5. DISCUSSION 34

 Summary of Results 34

 Demographics 34

 Health Literacy Measures 35

 MSU CAM Health Literacy Measure 35

 CAM use Among Older Rural Population 36

 Limitations 38

 Implications 38

TABLE OF CONTENTS-CONTINUED

Nursing Research Implications	38
Nursing Practice Implications.....	39
REFERENCES CITED.....	41
APPENDICES	48
APPENDIX A:Researcher Script	49
APPENDIX B: CAM Health Literacy Study Packet.....	51

LIST OF TABLES

Table	Page
1. Demographics and Sociodemographics	29
2. Health Literacy Measures Data.....	31
3. CAM Use	33

LIST OF FIGURES

Figure	Page
1. MSU Conceptual Model of CAM Health Literacy.....	8

ABSTRACT

The lack of health literacy is a critical problem in the United States. The use of complementary and alternative medicine (CAM) has become more prevalent and adds to the complexity of consumer health literacy. The Montana State University (MSU) CAM Health Literacy Scale is a new instrument developed to measure literacy specific to CAM therapies. The purpose of this study was to conduct further psychometric evaluation of the MSU CAM Health Literacy Scale with a rural older adult population. The specific aims were to (a) continue the assessment of the concurrent validity and reliability of the MSU CAM Health Literacy Scale and, (b) identify CAM use among older rural participants. A cross-sectional correlational design with quantitative methods was used to address the purpose and aims. Fifty two rural adults 50 years or older participated. Each participant completed a study packet which included the MSU CAM Health Literacy Scale and three general health literacy measures. The packet also included a short set of demographics and CAM use questions. Concurrent validity was assessed by examining correlations between the MSU CAM Health Literacy Scale and the health literacy measures. Internal consistency reliability was assessed using Cronbach's alpha. The analysis revealed significant correlations between the MSU Scale and the Newest Vital Sign ($r=.465$, $p<.001$) and the S-TOFHLA ($r=.293$, $p<.035$). The correlation between the MSU Scale and the Single Item Health Literacy Measure was not significant. The Cronbach's alpha for the Newest Vital Sign was .804, the MSU Scale was .667, and the S-TOFHLA was .915. Over one-half ($N=31$, 59.6%) of the respondents acknowledged using CAM therapies. This study contributes to the evidence that the MSU CAM Health Literacy Scale may be a reliable and valid tool to assess CAM Health Literacy. Ongoing assessment of the MSU CAM Health Literacy Scale is needed with a larger and more diverse sample to strengthen the evidence of validity and reliability. All providers need to include a CAM and CAM health literacy assessment with clients in their comprehensive healthcare approach to better understand and prevent health disparities.

CHAPTER ONE

INTRODUCTION

Background and Significance

The lack of health literacy is a critical problem in the United States and a focal point of Healthy People 2010 (U.S. Department of Health & Human Services (USDHHS), 2010). It has been shown that “nearly 9 out of 10 adults have difficulties with everyday health information” (USDHHS, 2010; Shreffler-Grant, Nichols, & Ide, 2013). Everyday health information includes the basic language that facilitates communication between clients and providers. The Institute of Medicine has found that there is a mismatch between the way people receive information and how they understand it (USDHHS, 2005). Many factors contribute to this mismatch including the use of medical terms or jargon, the complexities of navigating the healthcare system, and health literacy level. Many people may struggle with understanding health information at times, but those with low health literacy will have greater challenges. Understanding healthcare through improved health literacy is important for everyone because it is known to directly impact health outcomes.

According to Healthy People 2010, health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (USDHHS, 2000). The complexities of health literacy and its role in informed healthcare decisions are evident in its definition. Health literacy includes the “skills needed to navigate the health

care system and clear communication between health care providers and their patients” (Glassman, 2014, pp1).

The National Assessment of Adult Literacy (NAAL) includes assessment of three forms of general literacy: prose, document, and quantitative. Prose and document literacy include the knowledge and skills to read and comprehend information and quantitative literacy includes the ability to perform computations found in printed materials. The current NAAL includes a section on health literacy that is distributed across three health domains: clinical, prevention, and navigation of the healthcare system (Kutner, Greenberg, Jin, & Paulsen, 2006). The NAAL assessment of health literacy includes the basic skills needed to understand interactions with healthcare personnel, instructions for care including medications, routine care screenings, and understanding of informed consent. According to the NAAL,

approximately 36% of adults in the United States have Limited health literacy, 22% have Basic, and 14% have Below Basic health literacy. An additional 5% of the population is not literate in English. Only 12% of the population has a proficient health literacy level (Kutner et al., 2006, pp 5).

Without sufficient health literacy, consumers are unable to understand relationships between lifestyle choices, treatment modalities, and health outcomes (USDHHS, 2014). The ability to comprehend and make informed decisions is compromised with low health literacy. Deficits in health literacy impact interactions with providers, insurance companies, pharmacists, and retail outlets. As a result, many Americans may be unable to communicate with their provider about their health status, home therapies, and basic health care needs.

Complementary and Alternative Therapies

Use of natural products and self-directed complementary therapies have become more prevalent and add to the complexity of consumer health literacy. Complementary and alternative therapy (CAM) use is widespread throughout the United States and includes “four categories or “domains”: biologically based practices, energy therapy, manipulative and body-based methods, and mind-body medicine” (US Food and Drug Administration, 2014, Section II). Consumers use CAM therapies as a substitute or adjunct to the western medical model (Arcury, Preisser, Gesler & Sherman, 2004; Astin, 1998; Eisenberg et al. 1998; Harron & Glasser, 2003; McFarland, Bigelow, Zani, Newson, & Kaplin, 2002; Sheffler-Grant, Hudgins & Williams, 2009). Natural products are readily available over the counter for consumers to purchase without a prescription, and there is limited Food and Drug Administration regulation of natural products for safety.

According to the most recent National Health Interview Survey approximately 38% or 4 out of 10 adults and 12% or 1 out of 9 children use some form of CAM (National Center for Complementary and Alternative Medicine (NCCAM), 2006). Consumers from many different backgrounds use CAM and the prevalence is highest among women with higher educational level and socioeconomic status (NCCAM, 2008).

Unlike the western medical model, CAM is often self-prescribed or self-directed, resulting in a potential lack of communication between consumers and providers about CAM use (Eisenberg et al. 1993; Eisenberg et al. 1998; Shreffler-Grant, Hudgins, & Williams, 2009 & Vallerand, Fouladbakhsh & Templin 2003). Despite a general trend

towards more acceptance of CAM among consumers, there is evidence of reluctance to inform allopathic providers about CAM use (Eisenberg et al., 1993; Eisenberg et al., 1998, Shreffler-Grant, Nichols, Weinert, & Ide, 2010). Consumers may have different influences such as family, friends, and media that drive their decision to use CAM and health literacy is an important factor in that process. Due to the prevalence of CAM use, the ready availability of CAM products, and the limited regulation of CAM, there is a need to better understand the connection between health literacy and decision making when using CAM.

Health literacy about CAM is an essential component of safe CAM use and important in unique populations such as rural older adults. Montana is largely a rural state with a sparse population, creating a need to better understand CAM health care choices in rural adults. Rural areas tend to have limited access to healthcare services leading rural residents to seek alternative health options. A better understanding of CAM use in rural communities can provide prospective into rural health beliefs and alternative health practices. Researchers have contributed to the understanding of who uses and who does not use CAM in the general population but the demographics of CAM use can vary. Arcury et al. (2009) found that older adults often integrate complementary therapies into their health self-management regimens, whether as self-care behaviors or informal support, formal support, or medical care (Arcury et al., 2009). An older adult's use of CAM therapies may increase in the presence of chronic disease and regional differences also exist, with higher rates of use in the Western USA as compared to the Midwest, Northeast, and South (Arcury et al., 2009).

With inadequate health literacy about CAM there is a concern that consumers are susceptible to unsafe practices that can result in harm. Adequate health literacy about CAM is important in order to understand appropriate dosing, side effect profiles, and potential interactions with medications and foods. Many CAM products and their actions have not been studied which makes it difficult for consumers to understand the impact they may have on health outcomes.

The Montana State University CAM Health Literacy Scale was developed to measure CAM health literacy (Shreffler-Grant, Weinert, & Nichols, 2014). To date it is the only instrument available to evaluate health literacy specific to CAM. Tools are available to measure health literacy in general but addressing CAM therapy and health literacy requires a more specific evaluation. The MSU CAM Health Literacy Scale is a new instrument and an initial evaluation process was conducted to assess its validity with promising results (Shreffler-Grant, Weinert, & Nichols, 2014). Additional evaluation is needed to provide evidence of its validity and reliability before wide spread use in clinical practice and research.

Purpose

The purpose of this study was to conduct further psychometric evaluation of the MSU CAM Health Literacy Scale with a rural older adult population. The specific aims of the study were to: (a) continue the assessment of the concurrent validity and reliability of the MSU CAM Health Literacy Scale and, (b) identify CAM use among older rural participants. To achieve these aims, the MSU CAM Health Literacy Scale and several

measures of general health literacy were administered to a sample of older rural adults in three Montana rural communities, along with a short survey about the use of CAM.

Conceptual and Theoretical Framework

Evaluating CAM health literacy is multi-factorial. The MSU Conceptual Model of CAM Health Literacy was created to guide the development of the measure of CAM health literacy was used as the conceptual framework for this study (see figure 1 for the model) (Shreffler-Grant, Nichols, Weinert, & Ide, 2013). The conceptual model consists of three components: the antecedents, structural aspects, and outcome. The inputs or “antecedents” can lead to CAM health literacy and the ultimate goal or outcome is informed self health management. The antecedents are the constructs that are proposed to precede CAM health literacy. These components include the consumer’s demographics, general health status, information seeking behavior, health/illness trajectory, and general health literacy (Shreffler-Grant et al., 2013). These five components represent a consumer’s desire to seek additional health information, the perceived or actual state of health that impacts daily functioning, the ability to obtain and understand basic health information, the general level of health/illness, and information including age, gender, marital status, socioeconomic status, education and culture.

The core of the conceptual model is the structural component of CAM health literacy. It is proposed in the model that to be CAM health literate, consumers need to have ongoing “knowledge about four major concepts: dose, effect, safety and availability” (Shreffler-Grant et al., 2013, pp 6)

Dose: an understanding of the amount of CAM used and how it relates to the frequency, strength, duration and route of use

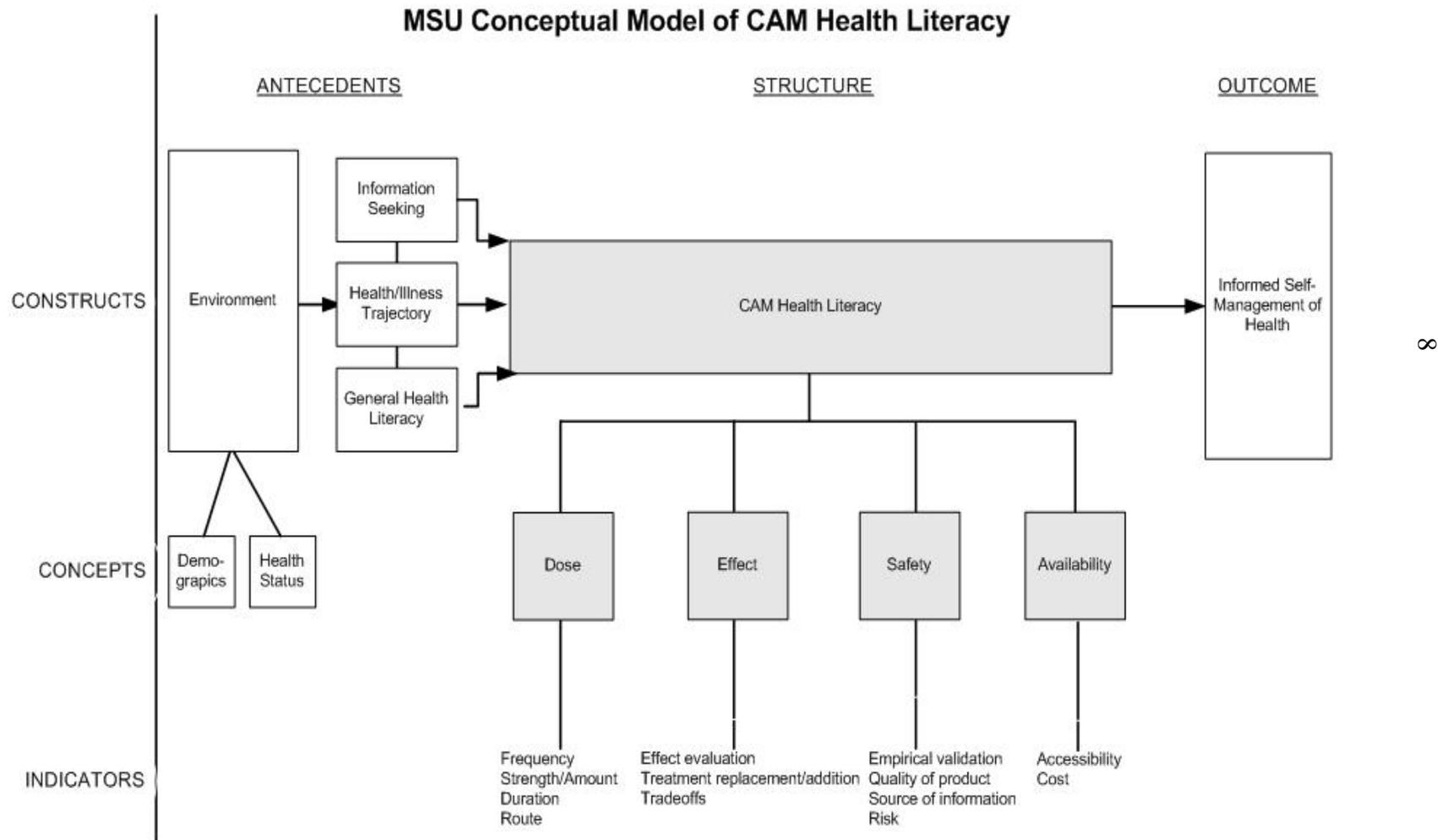
Effect: an understanding of the therapeutic effect the user expects. What are the potential benefits of use?

Safety: an understanding of risks and potential harm and if potential benefits outweigh potential harm

Availability: an understanding of the accessibility and affordability of CAM in relation to the consumer's needs

The antecedents and structural influences lay the foundation for CAM health literacy and lead to the outcome of “informed self-management of health” (Shreffler-Grant et al., 2013, pp 5). Consumers may have many self-care health options to choose from and the ability to make informed decisions regarding CAM therapy is important to their general health outcomes.

Figure 1. MSU Conceptual Model of CAM Health Literacy



Definitions

Complementary and Alternative Medicine (CAM)- “a group of diverse health care systems, practices, and products that are not presently considered a part of allopathic health care” (NCCAM, 2008).

Health Literacy- “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (USDHHS, 2014, pp 1).

Older adults-adults 50 years of age or older (American Association of Retired People, 2014)

Rural-an area that encompasses less than 2,500 people (US Census Bureau, 2013).

Western Medical Model-treatment approach that uses medical methods developed by scientific research that is provided by physicians, nurses, or other conventional healthcare providers.

Assumptions

Several assumptions were made prior to conducting this study. First, all the other instruments used in this study besides the MSU CAM Health Literacy Scale were valid and reliable. Lastly, the participant’s responses were accurate and reliable. Participants were honest in their responses regarding CAM use and completed the study packet independently without assistance from others.

CHAPTER TWO

REVIEW OF THE LITERATURE

In this chapter, the literature that serves as the foundation of this study is reviewed. Publications on general health literacy measures are summarized. In addition, the literature concerning the health seeking behaviors of rural adults and on complementary and alternative medicine use is reviewed. Finally, the limited literature on CAM health literacy is discussed.

Health Literacy and How It Has Been Measured

Adequate health literacy is important for individuals and families as they navigate today's complex healthcare system. People need to have at least adequate health literacy to make informed healthcare decisions. Healthy People 2010 identified health literacy as a national healthcare concern. Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (USDHHS, 2000). According to a 2012 Program for International Assessment of Adult Competencies (PIAAC) study, only 12% of the American population has proficient health literacy skills (Center for Disease Control, 2015). This study included adult literacy in three domains: literacy, numeracy, and problem-solving in technology. Literacy was defined as " understanding, evaluating, using, and engaging with written text to participate in the society, to achieve one's goals, and to develop one's knowledge and potential" and numeracy was defined as

"is the ability to access, use, interpret, and communicate mathematical information and ideas, to engage in and manage mathematical demands of a range of situations in adult life" (CDC, 2015, pp 669). The findings of the PIAAC study were consistent with the 2003 NAAL study and 1992 National Adult Literacy Scale (CDC, 2015). The NAAL used four levels of health literacy: Below Basic, Basic, Intermediate and Proficient. According to the NAAL, a large percentage of adults have limited health literacy (Kutner et al, 2006).

Investigators have shown that health literacy is a "stronger indicator of a person's health rather than age, income, employment status, educational level and race" (Parker, & Jacobson, 2012, pp 1). Low health literacy can overwhelm individuals as they navigate an already complex medical system. In previous studies, investigators have shown that "individuals with inadequate literacy have less health-related knowledge, receive less preventive care, have poorer control of their chronic illnesses, and are hospitalized more frequently than other patients" (Dewalt, & Pignone, 2005, pp 387). There is a mismatch in the complexities of health literacy between receiving and understanding healthcare jargon. Through multiple studies, researchers have documented the importance that health literacy has on patient outcomes.

Efforts to improve health literacy may help to reduce financial costs, health disparities, and improve quality of care. Health care extends beyond written materials, medical environment, and challenges that are associated with disease prevention and health promotion. Lack of health literacy was estimated to cost the American population \$106-236 billion dollars in 2014 (National Institutes of Health, 2014). This represents

approximately 7 to 17 percent of all healthcare expenditures or the expense to insuring the 47 million Americans without health insurance in 2006 (National Network of Libraries of Medicine, 2013). This is a significant burden for the general population and overall health of the nation.

As the size of the aging population over 65 years of age continues to grow and is estimated to be 71 million by 2030 there are added concerns for this vulnerable population. Inadequate health literacy will complicate already challenging health problems or conditions. In the 2003 NAAL, only 3% of adults ages 65 or older had proficient health literacy (USDHHS, 2014). Advancing age presents unique health difficulties including vision and hearing impairment and cognitive challenges. Understanding and measuring potential health literacy deficits can improve health outcomes and identify at-risk individuals.

Multiple tools have been created and utilized to measure health literacy among the general population. These tools generally measure reading comprehension and numeracy and some extend to measuring knowledge about body systems and disease processes. Some of the tools have long and short versions and English and Spanish versions to meet various clinical and research purposes. Following is not an exhaustive list of general health literacy instruments:

Short Assessment of Health Literacy (SAHLA)-Participants are presented with 18 key terms.

"For each term a key word with a related meaning and a distractor word unrelated in meaning to the test term. This tests the subject's comprehension as well as pronunciation (decoding) of health-related terms. Administration of the test takes only 2-3 minutes and

requires minimal training" (Agency for Healthcare Review and Quality, 2014, pp 1)

Rapid Estimate of Adult Literacy in Medicine (REALM)-

"screening tool designed to measure adults' ability to read common medical words or lay terms that correspond to anatomy or illnesses. As a word recognition test, the REALM does not assess comprehension. However, it is highly correlated with other tests of comprehension. It takes approximately 3 minutes to administer and score" (North Carolina Program on Health Literacy, 2014, pp 1)

Newest Vital Sign (NVS)-contains a nutrition label with 6 accompanying questions to assess literacy. It assesses literacy and numeracy and can be completed in approximately 3 minutes (North Carolina Program on Health Literacy, 2014).

Single Item Literacy Screener (SILS)-a single item screening tool that helps to identify individuals that have difficulty reading health-related information. The only question asked is "How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?" (North Carolina Program on Health Literacy, 2014, pp 1)

Test of Functional Health Literacy in Adults (TOFHLA)-The full version of this instrument consists of 50 items and activities in reading comprehension and numeracy. The passages come from common medical scenarios. The S-TOFHLA or short version only contains 36 items and the reading comprehension section. Individuals are classified as having inadequate, marginal or adequate health literacy (North Carolina Program on Health Literacy, 2014).

Single Item Health Literacy Measure-a single item screening tool has been found to have validity when used to screen for low levels of health literacy. The only question

asked is "How confident are you filling out medical forms by yourself?" (Chew, Bradley & Boyko, 2004)

Limited health literacy may often be under recognized by members of the healthcare team (Chew, Griffin, Partin et al., 2008). For many different reasons, the communication between individuals and providers is influenced by difficulties in health literacy, including understanding the disease process, human anatomy, insurance, pharmacy, and post care instructions. Providers may not know how to ask about literacy difficulties and individuals may be embarrassed or ashamed to admit problems with health literacy. This is only a small snapshot of the problems resulting from literacy limitations and the impact that it has on comprehensive patient care. Screening all individuals may not be feasible in a busy clinical setting. A single question instrument such as the SILS that may be useful and time sensitive in identifying people with health communication needs (Chew, Griffin, Partin et al., 2008).

Recognizing the important role that culture has in communication and healthcare practices may help to address health literacy. Cultural backgrounds may present different belief systems and communication styles that influence the way people understand and respond to health information (National Network of Libraries of Medicine, 2013). Language barriers also play a significant role in illiteracy. According to an American Community Survey by the Census Bureau (2013), it is estimated that 20 percent of the population has a language other than English as their primary language. The number of interactions across language barriers is estimated to be approximately 66 million in a 2002 report (Census Bureau, 2013; National Institute of Health, 2014).

Rural Adults and Their Health Seeking Behaviors

Health seeking behaviors include the intentional active methods to attain information and make healthcare decisions (National Library of Medicine, 2015). This includes any non-routine use of media and interpersonal conversations about health-related topics (National Library of Medicine, 2015). Health information seeking is different than information scanning, which includes routine resources, is less active and less goal-oriented in nature (National Library of Medicine, 2015). Health seeking behaviors can be influenced by demographics and individual differences and is usually approached with positive attitudes, knowledge, and motivated behaviors (National Library of Medicine, 2015). Consumers may often seek health information through traditional sources due to an interest in self-care.

Urban and rural dwellers may have different health seeking behaviors and access to healthcare resources. Rural residents may face similar health issues but have different challenges than urban residents. Lack of providers and long distances to travel for routine care may result in individuals being more sick when they seek care. Individuals may substitute a local primary care provider for a specialist or postpone seeking care when travel is burdensome. As a result, rural adults may have a higher incidence of poorly controlled chronic disease and overall poor health (National Institutes of Health, 2015). Rural dwellers have a higher prevalence of chronic disease (about 19%) when compared to their urban counterparts (12 to 14%) (Cudney, Weinert, & Kinion, 2011; Wood, 2005). Rural risk factors include geographic isolation, lower socio-economic status, limited job

opportunities, lack of medical insurance, and an increased rate of high-risk behaviors (National Institute of Health, 2015).

There are many social forces that influence rural dwellers health seeking actions. An important factor is how rural people tend to define health that equates to one's ability to work, function, and continue to perform daily tasks (Cudney, Weinert, & Kinion, 2011; Lee, 1989; Long & Weinert, 1989; Ross, 1982). The long term health impact of rural values is seen in chronic illness management and self-care. Health beliefs influenced by the rural lifestyle may impact health seeking behavior and health care decisions. In rural communities, residents live and work closely with each other, often creating blurred lines of privacy. In rural areas, there is concern for anonymity, privacy, and social stigma (Rural Assistance Center, 2015). Residents may be concerned about seeking care for sensitive issues such as substance abuse, mental health, and sexual health in addition to chronic health management due to privacy concerns. Personal relationships with members of the healthcare team or facility can influence a person's decision to actively seek necessary care (Rural Assistance Center, 2015). In small rural communities, a neighbor may also be the health care provider and members of the community may see who seeks care in the local clinic. These factors can influence residents seeking care for fear of their healthcare experience being shared among other community members.

A general theme of the Healthy People 2010 is to reduce health disparities among vulnerable populations and given limited healthcare resources and prevalence of health problems rural populations would fit into this target population. There are limited studies available that explore health literacy specific to rural populations although the few

publications that are available suggest that basic health literacy is a problem in rural communities (Wood, 2005; Zahnd, Scaife, & Francis, 2009).

Complementary and Alternative Therapy Use

Complementary and alternative therapies have become more prevalent than in the past throughout the United States. The widespread use of CAM therapies has contributed to growing complexities in the healthcare system. Complementary therapy has been defined as "a group of diverse health care systems, practices, and products that are not presently considered an integral part of allopathic health care" (National Center for Complementary and Alternative Medicine, 2006). Treatment modalities include therapies by providers, self-directed practices, and nutritional and herbal supplements.

Investigators have shown that CAM therapies are used more frequently for chronic health conditions, and are more common among women, younger adults more than older adults, individuals with higher income and educational attainment, and among those living in the Western United States than other parts of the nation (Astin, 1998; Astin, Pelletier, Maie, & Haskell, 2000; Cherniack, Senzel, & Pan, 2001; Eisenber et al., 1998; Shreffler-Grant, Weinert, Nichols, & Ide, 2005).

Consumers use CAM therapies for many different reasons. In 2007, it was estimated that approximately 17.4 percent of adults used CAM to treat a health illness and 27.4 percent of adults used CAM for health promotion efforts (Davis, West, Weeks, & Sirovich, 2011). Consumers use CAM therapies as a substitute or adjunct to the western medical model (Arcury, Preisser, Gesler & Sherman, 2004; Astin, 1998;

Eisenberg et al. 1998; Harron & Glasser, 2003; McFarland, Bigelow, Zani, Newson, & Kaplin, 2002; Shreffler-Grant, Hudgins & Williams, 2009). There is conflicting evidence about whether or not consumers use CAM therapies as a result of dissatisfaction with allopathic care (Kelner & Wellman, 1997; McGregor & Peay, 1996; Vincent, 1996 & Shreffler-Grant, Weinert, Nichols, & Ide, 2005). Use of CAM is often in alignment with personal values and beliefs rather than dissatisfaction (Astin, 1998 & Shreffler-Grant, Weinert, Nichols, & Ide, 2005). Researchers have found that CAM use was predominantly an adjunctive therapy but not replacement for conventional medical care (Institute of Medicine, 2005).

There are a variety of motivations that have been shown to influence CAM use, such as the pursuit for wellness, limited access to conventional medicine, influences by people who have used CAM therapy, dissatisfaction with previous treatment approaches or providers, exploration of new options, and making a lifestyle statement (Institute of Medicine, 2005). These motivations may change over time and be influenced by the frequency of use including initial or ongoing use. Individuals who frequently saw their conventional health care providers were more likely to use CAM therapies. In addition, the presence of medical health insurance is associated with higher rates of CAM use (Institute of Medicine, 2005).

Adams, Sibbritt and Lui (2011) found that CAM use was greater in urban areas rather than rural areas, however further research suggested that CAM use is prevalent in 39-87% of rural communities and rural populations may actually be linked to higher CAM use when compared to urban residents. Investigators have also found that CAM use

among older rural adults was a strategy for self-directed care to maintain health.

Shreffler-Grant et al. (2005) showed that self-directed therapies were used more often as general health promotion rather than directly to treat a health related problem.

Researchers have presented a number of possible explanations to support higher CAM use among rural or remote residents. These include gender, limited access to healthcare services, income level, education attainment, age, community networks, cost effectiveness, and type of illness (Adams, Sibbritt, & Lui, 2011; Institute of Medicine, 2005). Women tend to be more proactive in their health promotion than men and invest more time and resources in therapies that benefit overall health status (Hibbard & Pope, 1983; Institutes of Medicine, 2005; Verbrugge and Wingard, 1987). Eisenberg et al. (1998) found that CAM use was higher among those with more education and income status, however other investigators have found that 43% of those in the lowest income levels use CAM (Institute of Medicine, 2005). In rural communities there may be limited access to healthcare services resulting in the use of more self-directed practices such as CAM use (Nichols, Sullivan, Ide, Shreffler-Grant, & Weinert, 2005).

Consumers can obtain information about CAM therapies in numerous ways.

According to research, the three most common CAM resources include word of mouth, the internet, and finally health food stores (Institute of Medicine, 2005). Social networks provide direct and indirect information to individuals regarding CAM therapies.

Advancements and improved access in technology have increased the availability of information for those who use the internet for health information. There are general concerns about using the internet for reputable information about CAM therapies. Online

resources may not disclose necessary information about CAM therapies including appropriate dose, potential adverse reactions, and provide misleading claims regarding the ability to treat, prevent, diagnose, or cure a specific disease (Institute of Medicine, 2005). Finally, health food merchants are positioned to influence consumers about CAM therapies and may not be qualified to provide CAM advice. It has been shown that CAM therapies are used with and without the direct supervision of a provider. It is estimated that 48 percent of people used self-care-centered CAM therapies and the remaining 52 percent were working with a CAM provider (Institute of Medicine, 2005).

Complementary and Alternative Medicine Health Literacy

There is very limited research about CAM Health Literacy. Nursing researchers Shreffler-Grant, Weinert, and Nichols from Montana State University found in a series of studies on use of CAM among older rural dweller of studies that there was a lack of knowledge specific to CAM or health literacy about CAM. Evaluation of participants' responses related to CAM therapy use, revealed concerns about information sources about CAM and consumers understanding of CAM necessary to make informed self-management decisions. A conceptual model was developed to characterize an individual's health literacy about CAM. The research and conceptual model led to the development of the MSU CAM Health Literacy Scale (Shreffler-Grant, Weinert, & Nichols, 2014). Ongoing assessment of this tool will add to its validity and reliability in measuring CAM Health Literacy. This health literacy tool is specific to CAM and can be used to explore the link between health literacy and CAM.

A recent study by Gardiner, Mitchell, Filippelli, Sadikova, White, Paasche-Orlow, and Jack (2015) assessed the sociodemographic characteristics, CAM use, and health literacy among underserved diverse populations. Using a general health literacy tool, the Rapid Estimate of Adult Literacy in Medicine (REALM), the authors "found that higher health literacy was associated with more use of any CAM therapies and provider-delivered CAM therapies for all groups other than non-Hispanic blacks" (Gardiner, Mitchell, Filippelli, et al., 2015, pp 294).

In a 2011 study the relationship between health literacy, CAM use, education attainment, and race were evaluated. The findings indicated higher CAM use among white persons with adequate health literacy versus African Americans, among whom CAM use was not influenced by health literacy (Bains & Egede, 2011). There is evidence that health literacy affects CAM use. The investigators found that health literacy could vary between CAM use category, such as vitamins and meditation. The presence of comorbid conditions and previous health knowledge play a role in CAM use. Barnes, Bloom, and Nahin (2008) found that a higher rate of CAM use among the white population was related to greater reading ability (Bains & Egede, 2011).

CHAPTER THREE

METHODS

In this chapter, the methods that were used to address the purpose and aims of this study are described. The purpose was to conduct further psychometric evaluation of the MSU CAM Health Literacy Scale with a rural older adult population and the aims were to continue the assessment of the concurrent validity and reliability of the MSU CAM Health Literacy Scale and identify CAM use among an older rural participants. The study design, population and sample, procedures for data collection, and rights of human subjects are discussed. Finally, the data analysis process is summarized.

Design

A cross-sectional correlational design with quantitative methods was deemed appropriate for this study because of its ability to assess CAM health literacy at one point in time. The design also allowed the researcher to examine concurrent validity and reliability of the MSU CAM Health Literacy Scale (study aim 1) and identify CAM use among older rural participants (study aim 2). After further evaluation and refinement, the MSU CAM health Literacy Scale may provide a standardized instrument that can be used in future nursing practice and research endeavors.

Population and Sample

Fifty rural adults who were 50 years or older was the desired sample size of this study. To achieve this sample size, participants were recruited at Senior Centers in the Florence and Stevensville communities in Ravalli County and White Sulphur Springs in Meagher County. Ravalli County has approximately 40,800 residents with 16.8 people per square mile. In 2010, Florence's population was 765 people and 11.6% were adults aged 65 years or older (Census Viewer, 2014). The community of Stevensville had approximately 1,800 residents in 2010 with 21.7% of the population 65 years or older (Census Viewer, 2014). Meagher County has approximately 1,900 residents with 0.8 people per square mile. The community of White Sulphur Springs had approximately 970 residents in 2013 with 25.0% of the population 65 years or older (U.S. Census Bureau, 2015).

Data Collection

A script was used by the researcher to guide the contact with potential participants and explain the contents of the study packet (see Appendix A). A sign-up sheet was circulated with the packets requesting contact information from the participants with the intent of individually recognizing their assistance with the study. Participants were mailed thank you cards to acknowledge their time and contribution to the study.

The researcher contacted the Directors of the Senior Centers to seek permission to approach their older population and explain the nature of the study. This initial contact assisted the researcher to plan appropriate times that the target population would be

available to reach the greatest number of potential participants. Data were collected from participants in a group setting, including following the lunch meal, during an afternoon birthday party, a church luncheon, and evening game of Bunko. Approaching participants during this time allowed the researcher better access to a larger group. After consent to participate, the CAM Health Literacy Study Packet was administered. As participants sat in close proximity to each other, they were encouraged to complete the survey independently and not discuss the content until everyone was finished. Additional time was available if participants wished to discuss or elaborate on their responses. Data collection took place during January-February 2015.

Instrumentation

Each participant completed the CAM Health Literacy Study Packet which included a cover letter, MSU CAM Health Literacy Scale (Shreffler-Grant, Weinert, & Nichols, 2014), several general health literacy measures including the Newest Vital Sign, the Short Test of Functional Health Literacy in Adults (S-TOFHLA) and Single Item Health Literacy measure. The packet also included a short set of demographics and CAM use questions. (See Appendix B for study packet)

The MSU CAM Health Literacy Scale (Shreffler-Grant, et al., 2014), is a 21 question tool with Likert response options of 1-4 for: disagree strongly, disagree somewhat, agree somewhat and agree strongly. The Scale includes general knowledge-based statements about herbal products with which participants agree or disagree. In a previous psychometric evaluation the MSU CAM Health Literacy Scale had a Cronbach's

alpha of 0.731 (Shreffler-Grant, et al., 2014). The Newest Vital Sign instrument measures health literacy based on reading and numeracy skills (NC Program on Health Literacy, 2014). The English version of the Newest Vital Sign has a reported Cronbach's alpha of >0.76 (Weiss, et al., 2005). Participants were given an ice cream container label to review and responded to questions related to nutritional intake. The S-TOFHLA is an instrument intended to measure health literacy by evaluating reading comprehension through a series of medical instructions that a patient may experience in the hospital. Passage A includes a scenario about x-ray preparation and passage B includes questions about Medicaid rights and responsibilities (Nurss, Parker, & Baker, 2001). In a previous psychometric evaluation, the shortened version (S-TOFHLA) had good internal consistency reliability (Cronbach's alpha 0.98) (Parker, Baker, Williams, & Nurss, 1995; Baker, Williams, Parker, Gazmararian, & Nurss, 1999). The Single Item Health Literacy measure includes one question, "How confident are you filling out medical forms by yourself" with Likert response options of not at all confident to extremely confident. The Single Item Health Literacy measure has been shown to identify inadequate health literacy (Chew, Griffin, Partin, Noorbaloochi, Grill, & Snyder et al., 2008). The final component in the Study Packet contained six demographic questions including presence of any significant health problems and CAM use questions. Completing the CAM Health Literacy Study Packet took approximately thirty minutes for participants to complete.

Data Management and Analysis

Following data collection, the data from the completed study packets were entered into Statistical Program for the Social Sciences Version 22 for analysis. Descriptive statistics and frequencies were used to identify possible data entry errors. When implausible entries were discovered, the data file was checked against the original study packet and corrected as necessary. The values of 11 reverse coded items in the MSU CAM Health Literacy Scale were re-coded prior to analysis.

Descriptive statistics were used to summarize the results on the demographic questions and produce a description of the respondents. Descriptive statistics and frequencies were also used to summarize the results on the CAM use questions and scores on the instruments in the study packets. To address research Aim 1: assess the validity and reliability of the MSU CAM Health Literacy Scale, scores were computed for the MSU CAM Health Literacy Scale and the general health literacy measures. The scores on the MSU CAM Health Literacy Scale and each general health literacy measure were compared using correlations. Cronbach's alpha statistics were used to assess the reliability or consistency of the responses on each health literacy measure. To address research Aim 2: identify CAM use among older rural participants, descriptive statistics were used.

Rights of Human Subjects and Consent

This study was a component of a larger ongoing study to develop and evaluate the MSU CAM Health Literacy Scale. The larger study was approved as exempt from full

review by the Montana State University Institutional Review Board for the Protection of Human Subjects on 5-12-09. A request for modification of the original approval to include this current study was submitted on 12-15-14 and approval of the modification was received on 12-22-14.

Prior to the distribution of the study packet, the basic components of informed consent were applicable in this study including full disclosure of the nature of the research study, participant comprehension of their role in the study, and the understanding that participation was voluntary and could be discontinued at any time (Cornell University, 2007). The researcher introduced herself to the participants and thanked them for their consideration of assisting in this study. The purpose of the study and definitions, such as health literacy and CAM were explained. Participants were informed that they did not need to be using complementary and alternative health care to assist with this study. It was reinforced that participation was voluntary, their answers were confidential, and the results would be reported as a group without individual identifiers. Participants were assured they could withdraw at any time or choose not to answer any questions included in the packet. A description of the packet contents was provided and participants were instructed to mark all their answers in the booklet. Participants who were willing to continue were given a CAM Health Literacy Study Packet.

CHAPTER FOUR

RESULTS

The purpose of this study was to conduct further psychometric evaluation of the MSU CAM Health Literacy Scale with a rural older adult population. Presentation of the results are organized according to the aims of this study. In this chapter, the following information is summarized: (a) demographics (b) results of the concurrent validity assessment and reliability of the MSU CAM Health Literacy Scale and, (c) the identification of CAM use among older rural participants.

A total of 52 surveys were completed by older rural adults to address the aims of the study. The target sample was achieved by visiting two rural communities in southwest Montana and one rural community in central Montana. Initial contact with participants was made through local Senior Centers. This approach provided greater access to the target population and resulted in invitations to attend community events such as Bunko game nights, church luncheons, and monthly birthday parties.

Demographics

Of the 52 individuals who participated in the study, 38 (71.7%) were women and 14 (26.4%) were men. Ages ranged from 51 to 88 years of age with a mean age of 67.8 years. One (2.0%) of the participants had less than a high school education, thirty-two (61.5%) had a high school diploma and 19 (36.5%) had a college degree including an Associate or trade school degree, Bachelor's degree, Master's degree, Doctorate and Professional degree. Thirty-one (59.6%) of the participants were currently married or

with a partner and 21 (43.1%) participants were currently not married or with a partner. Twenty-three (44.2%) reported significant health problems and 29 (55.8%) denied any health problems.

Table 1: Demographics and Sociodemographics

	N=Number of People	Percentage %
<u>Gender</u>		
Women	38	73.1
Men	14	26.9
<u>Age</u>		
50-59	13	25.7
60-69	17	33.3
70-79	14	27.2
80-89	7	13.8
<u>Education Level</u>		
Less than High School	1	2.0
High School Diploma	32	61.5
College Degree	19	36.5
<u>Marital Status</u>		
Currently married or with partner	31	59.6
Not currently married or with partner	21	43.1
<u>Health Problems</u>		
Reports significant health problems	23	44.2
Denied significant health problems	29	55.8

Note: Not all questions were answered by participants

Assessment of the MSU CAM Health Literacy Scale

Data from the study packets were entered into IBM SPSS Version 22 for analysis. The data were reviewed, recoded as appropriate and a series of analyses were run. Correlational statistics were used to evaluate validity by examining the relationship between the MSU CAM Health Literacy Scale and the three health literacy measures. Internal consistency reliability (Cronbach's alpha) of the MSU CAM Health Literacy Scale, the Newest Vital Sign, and the S-TOFHLA were also examined.

The MSU Health Literacy Scale consists of twenty-one questions on general knowledge about herbal products. This CAM health literacy tool has Likert response options ranging from 1 "Disagree" to 4 "Agree Strongly". The potential range of scores is 21 to 84. Scores in this study ranged from 54 to 81 with a mean score of 67.9.

The Newest Vital Sign consists of six questions to assess reading and numeracy literacy skills. Participants were given a nutrition label to review and respond to questions. A score of six (6) was equivalent to answering all the questions correctly. Twenty-eight (53.8%) of participants answered all questions correctly. The scores ranged from 0 to 6, with a mean score of 4.8.

The S-TOFHLA is an instrument that measures health literacy by evaluating reading comprehension through a series of medical instructions that a patient may experience in the hospital. It includes two passages that participants are asked to read and then complete with thirty-six questions about the passages. Participants received a score of thirty-six (36) if all questions were answered correctly. The scores in this study ranged from 13 to 36 with a mean score of 34.3.

The Single Item Health Literacy Measure includes one question, “How confident are you filling out medical forms by yourself” with Likert response options of 1-5: not at all confident, a little confident, somewhat confident, quite confident, and extremely confident. The scores ranged from 1 to 5 with a mean score of 3.9.

Table 2: Health Literacy Measures Data

	N=Number of People	Percentage %
<u>MSU CAM Health Literacy Scale</u>		
Score of 21-53	0	0.0
Score of 54-60	8	15.2
Score of 61-70	31	59.8
Score of 71-80	12	23.1
Score of 81-84	1	1.9
<u>Newest Vital Sign</u>		
0-3 questions answered correctly	7	13.5
4-6 questions answered correctly	45	86.5
<u>S-TOFHLA</u>		
13 questions answered correctly	1	1.9
32-33 questions answered correctly	5	9.6
34-35 questions answered correctly	43	82.7
36 questions answered correctly	3	5.8
<u>Single Item Health Literacy Measure</u>		
Not at all confident	2	3.8
A little confident	3	5.8
Somewhat confident	10	19.2
Quite confident	19	36.6
Extremely confident	18	34.6

Correlation and Reliability

The correlation between the MSU CAM Health Literacy Scale and Newest Vital Sign was statistically significant ($r=.465$, $p<.001$). In addition, the correlation between the MSU CAM Health Literacy Scale and S-TOFHLA was statistically significant ($r=.293$, $p<.035$). There was no significant correlation ($r=-.051$, $p=.722$), between the MSU CAM Health Literacy Scale and the Single Item Health Literacy Measure.

Internal consistency reliability (Cronbach's alpha) was examined on the three principal tools and yielded the following results: Newest Vital Sign with six items had a Cronbach's alpha of .804, the MSU CAM Health Literacy Scale with twenty-one items had a Cronbach's alpha of .667 and the S-TOFHLA with thirty-six items had a Cronbach's alpha of .915. The standardized minimal criteria for reliability is .7 or 70 percent. Using this guideline, the Newest Vital Sign and STOFHLA have strong internal reliability and the MSU CAM Health Literacy Scale has moderate internal reliability.

CAM Use Among Older Rural Participants

In the study packet were four questions designed to explore CAM use among older rural participants in the three communities. Thirty-one (59.6%) of the participants reported that they used CAM therapies. Among those who used CAM, four (12.9%) of the participants reported using CAM therapies to cure or treat a physical condition, 10 (32.2%) participants used CAM to prevent a health condition, and 15 (48.4%) participants used it to both cure and prevent a health condition. Nineteen (61.3%) reported learning about CAM therapies from family and friends and 11 (35.5%) reported gaining information from media sources regarding CAM therapies. They reported using a

variety of products that were classified as naturopathic medicine (n=4, 12.9%) and vitamins and minerals (n=11, 35.5%).

Table 3: CAM Use

	N=Number of People	Percentage %
CAM use		
Yes	31	59.6
No	20	40.4
Why was CAM used		
Cure	4	12.9
Prevent	10	32.2
Both cure and prevent	15	48.4
No response	2	6.5
How did you learn about CAM therapy*		
Family or friends	19	61.3
Media sources	11	35.5
No response	1	3.2
What type of CAM therapy		
Naturopathic**	4	12.9
Vitamins & Minerals***	11	35.5
No response	16	51.6

Note: Not all questions were answered by participants *Participants could provide more than one answer **Includes one participant's response of using MSM ***Include one participant's response of using probiotics

CHAPTER FIVE

DISCUSSION

The purpose of this study was to conduct further psychometric evaluation of the MSU CAM Health Literacy Scale with an older rural population. The research was designed to assess the concurrent validity and reliability of the MSU Health Literacy Scale and identify CAM use among the target population.

Summary of Results

The data were collected from three rural Montana communities. Two of the communities were located in Ravalli County in southwest Montana and one community was located in Meagher County in central Montana.

Demographics

Respondents in the study were primarily women (N=38, 71.7%) with a mean age of 67.8 years. There was a fairly even distribution of ages between 50-80 years of age. Almost two-thirds of the respondents (N=32, 61.5%) had a high school diploma. Over one-half (N=31, 59.6%) of the sample was currently married or with a partner. Confidence in completing medical forms is an important indicator of health literacy and almost three quarters (N=37, 71.2%) of the participants felt confident with this skill.

Health Literacy Measures

The Newest Vital Sign, S-TOFHLA, and the Single Item Health Literacy instruments are the three general health literacy measures used in this study and are limited in their assessment of health literacy in that they focus on basic reading, comprehension, and numeracy skills (Institute of Medicine, 2004; Shreffler-Grant, Weinert, & Nichols, 2014). Investigators in previous studies have demonstrated that the Newest Vital Sign and S-TOFHLA are good indicators of health although they are not specific to CAM therapies (Rowlands, Khazaezadeh, Oteng-Ntim, Seed, Barr, & Weiss, 2013). Researchers have shown that the Single Item Health literacy question was a good indicator of inadequate health literacy (Chew, Bradley, & Boyko, 2004). A single screening tool is useful to rapidly identify individuals with low health literacy and tailor education needs and provider communication styles to meet individual needs. On all of the health literacy measures used in this study, the participants scored in the upper range of the results. Based on these results, the group of older adults in this study demonstrated a high level of general and CAM health literacy.

MSU CAM Health Literacy Scale Measure

Assessment of the MSU CAM Health Literacy Scale conducted in this study contributed to the evidence that this health literacy scale may be a reliable and valid tool to assess CAM health literacy. There was moderate internal consistency reliability in the MSU CAM Health Literacy Scale. This compares to a previous study in which investigators reported an internal reliability of .778 with a larger sample size of 600 respondents (Shreffler-Grant, et al., 2014).

There were statistically significant positive correlations between the MSU CAM Health Literacy Scale and the Newest Vital Sign, and between the MSU CAM Health Literacy Scale and the S-TOFHLA. This suggests that someone who has a high level of health literacy may also have a high level of CAM health literacy. There was not a significant correlation between the MSU CAM Health Literacy Scale and Single Item Health Literacy Measure. Shreffler-Grant, et al. (2014) found a significant correlation between the MSU CAM Health Literacy Scale and the Newest Vital Sign ($r=0.221$, $p=.002$) and between the MSU CAM Health Literacy Scale and the Single Item Health Literacy Measure ($r=.284$, $p=.003$). It is conceivable that the general health literacy instruments measure different constructs than the MSU CAM Health Literacy Scale and this influences the relationship (Shreffler-Grant, et al., 2014). In this study most of the participants scored in the upper range of possible score on the health literacy and CAM health literacy measures and the lack of variability may have affected the statistical results. There is currently no other research besides the study reported here in which a comparison of the MSU CAM Health Literacy Scale and S-TOFHLA was evaluated.

CAM Use Among Older Rural Population

The CAM use information obtained from the participants included confirmation or denial of CAM use, the reasons for using CAM, how participants learned about respective CAM therapies, and what type of CAM therapies they were using. Over one-half ($N=31$, 59.6%) of the respondents acknowledged using CAM therapies. It is conceivable that participants were open to CAM use or were currently using CAM therapies or providers within their area. When asked about the reason for use, the largest

percentage of CAM users reported using alternative therapies to both cure and prevent health problems. Nineteen (61.3%) of the participants who used CAM reported learning about therapy options from friends and family and eleven (35.5%) reported learning about them from media sources. A small percentage (N=15, 48.4%) of the participants who used CAM shared what type of CAM therapies they used. Eleven (35.5%) of the respondents reported using vitamins or minerals and four (12.9%) reported engaging in naturopathic therapies.

In this study, the reported use of CAM therapies was greater than the national average. In a recent National Health Interview Survey, investigators found that approximately 38% of adults used some form of CAM (NCCAM, 2008). The use of self-directed practices and as well as CAM providers may have contributed to the elevated prevalence of CAM use in this study. A variety of motivations have been reported to explain why consumers use CAM therapies or modalities. Researchers have noted an interest in CAM therapies for both health promotion and disease management and prevention (Astin, 1998; IOM, 2005). The findings of this study are consistent with previous studies by Eisenberg et al (1993, 1998) and IOM (2005), that documented that 58% of participants used CAM to prevent illness or health promotion and 42% of participants used CAM to treat an existing medical condition. Information about CAM therapies and modalities impacts the choice to use CAM. Institute of Medicine (2005) reported that social networks and the internet are common sources of CAM information and these findings are consistent with the results of this study.

Limitations

The potential limitations to this study included small sample size, reliance on participants' self-reporting, and participant bias. The small sample size may have limited the generalizability of the results. A larger sample size could also have increased the evidence of concurrent validity of the MSU CAM Health Literacy Scale. The study also relied on the self-reporting of the participants. It is possible that participants did not complete the study packets independently, may have guessed at answers, or may have under or over-reported their use of CAM therapies.

Implications

Nursing Research Implications

There is limited research literature available that is focused on CAM health literacy. This gap in the literature is an area for further research studies to better understand health literacy related to CAM therapies. Ongoing assessment of the validity and reliability of the MSU CAM Health Literacy Scale is necessary as it is a new tool and the only tool of its kind to assess CAM Health Literacy.

Ongoing assessment of the MSU CAM Health Literacy Scale needs to be conducted with a larger sample size. Further investigations to include urban vs rural samples and younger vs older adults would also be beneficial to strengthen the evidence of validity and reliability of the MSU CAM Health Literacy Scale for use with a more diverse population.

Nursing Practice Implications

This study is ongoing evidence that older rural residents are active users of CAM therapies. These findings are consistent with national studies that have shown increased prevalence of CAM use (Barnes et al., 2008; Eisenberg et al., 1993; Eisenberg et al., 1998; Institute of Medicine, 2005; Shreffler-Grant et al., 2010). Although CAM use is evident, there are very limited tools to evaluate CAM health literacy. Those who reported use of CAM in this study acknowledged learning about alternative therapies primarily from family/friends and media sources rather than health care providers. The CAM health literacy of social networks and media sources is questionable. Family, friends, and media sources strongly influence consumers' choices to use CAM. Complementary and alternative medicine users that utilize word of mouth information and internet or other media may be misguided or not receive essential safety data about respective CAM therapies. It is important to note that what works for one person may not be effective or appropriate for someone else. Further consumer education is essential to better understand CAM therapies, safety profiles, and reputable sources of information.

Participants with average or lower health literacy may have difficulty navigating the healthcare system and integrating safe use of CAM therapies into their health care practices. Higher health literacy levels translate to better health outcomes. People look to members of their healthcare team, including physicians, physicians assistants, and nurse practitioners to provide holistic care and guide their healthcare choices. Increased health literacy and CAM health literacy can enhance communication with providers and help providers guide consumers to reputable and safe resources for CAM therapies.

Similar to national studies, it was found that women were more likely to use CAM. Many factors are associated with women's use of CAM including age and greater investment in resources that influence health promotion and illness prevention. Women are more conscious than men about their health care choices (Shreffler-Grant, Hill, Weinert, Nichols, & Ide, 2007). This finding presents a potential risk that men may have decreased CAM health literacy or do not report use when asked. As a result, men may be at an increased risk of adverse reactions. This finding also suggests that women have a need for education about CAM since they use it but may not be health literate about it. It is conceivable that medical providers do not demonstrate an open unbiased communication style that engages individuals to disclose CAM therapy use. All providers need to include a CAM assessment for all individuals in their comprehensive healthcare approach. Ongoing regular assessments of health literacy and CAM health literacy in practice is essential to better understand and prevent health disparities.

REFERENCES CITED

- Adams, J., Sibbritt, D., & Lui, C. (2011) The urban-rural divide in complementary and alternative medicine use: a longitudinal study of 10,638 women. *BMC Complementary and Alternative Medicine*, 11, 2.
- Agency for Healthcare Research and Quality (2014) Health Literacy Measurement Tools. Retrieved from <http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy/index.html#rapid>.
- American Association of Retired People (AARP) (2014) Membership Resources. Retrieved from <http://www.aarp.org/benefits-discounts/my-membership/>.
- Arcury, T. A., Preisser, J. S., Gesler, W. M., & Sherman, J. E. (2004) Complementary and alternative medicine use among rural residents in western North Carolina. *Complementary Health Practice Review*, 9 (2), 93-102.
- Arcury, T. A., Grzywacz, J. G., Stoller, E., Bell, R., Altizer, K., Chapman, C., & Quandt, S. A. (2009) Complementary therapy use and health self-management among rural older adults. *Journal of Gerontology: Social Studies*, 64 B(5), 635-643, doi:10.1093/geronb/gbp011.
- Astin, J. (1998) Why patients use alternative medicine: Results of a national study. *Journal of the American Medical Association*, 279(19), 1548-1553.
- Astin, J., Pelletier, K., Marie, A., & Haskell, W. (2000) Complementary and alternative medicine use among elderly persons: One-year analysis of a Blue Shield Medicare supplement. *Journal of Gerontology*, 55A, M4-M9.
- Bains, S. & Egede, L. (2011) Association of health literacy with complementary and alternative medicine use: A cross-sectional study in adult primary care patients. *BMC Complementary and Alternative Medicine*, 11,1-7.
- Baker, D.W., Williams, M.V., Parker, R. M., Gazmararian, J. A., & Nurss, J. (1999). Development of a brief test to measure functional health literacy. *Patient Education and Counseling*, 38(1), 33-42.
- Barnes P. M., Bloom B., & Nahin R. L. (2008) Complementary and alternative medicine use among adults and children: United States 2007. National Health Statistic Report, 12, 1–23.
- Census Bureau (2013) Language Use In The United States: 2011: American Community Survey Reports. Retrieved from <http://www.census.gov/prod/2013pubs/acs-22.pdf>.
- Census Viewer (2012) Florence, Montana Population. Retrieved from <http://censusviewer.com/city/MT/Florence>.

- Census Viewer (2012) Stevensville, Montana Population. Retrieved from <http://censusviewer.com/city/MT/Stevensville>.
- Center for Disease Control (CDC) (2015) Health Literacy in the United States. Retrieved from: <http://www.cdc.gov/healthliteracy/training/page669.html>.
- Cherniack, E., Senzel, R., & Pan, C. (2001) Correlates of use of alternative medicine by the elderly in an urban population. *Journal of Alternative and Complementary Medicine*, 2, 277-280.
- Chew, L., Bradley, K., & Boyko, E. (2004) Brief questions to identify patients with inadequate health literacy. *Family Medicine*, 36 (8) 588-594.
- Chew, L., Griffin, J., Partin, M., Noorbaloochi, S., Grill, J., Snyder, A., Bradley, K., Nugent, S., Baines, A., & VanRyn, M. (2008) Validation of Screening Questions for Limited Health Literacy in a Large VA Outpatient Population. *Journal of General Internal Medicine*, 23(5),561-6.
- Cornell University (2007) Required Components of Informed Consent. Retrieved from <http://www.irb.cornell.edu/forms/consent.htm>.
- Cudney, S., Weinert, C., & Kinion, E. (2011) Forging partnerships between rural women with chronic conditions and their health care providers. *Journal of Holistic Nursing*. 29,53.
- Davis, M. A., West, A. N., Weeks, W. B., & Sirovich, B. E. (2011) Health behaviors of complementary and alternative medicine for treatment versus health promotion. *Health Services Research*, 46, 5.
- Dewalt, D., & Pignone, M. (2005) The role of health literacy and health care. *American Family Physician*, 72(3),387-388.
- Eisenberg, D., Kessler, R., Foster, C., Norlock, F., Calkins, D., & Delbanco, T. (1993) Unconventional medicine in the United States. *The New England Journal of Medicine*, 328,246-252.
- Eisenberg, D., Davis, R., Ettner, S., Appel, S., Wilkey, S., Van Rompay, M., & Kessler, R. (1998) Trends in alternative medicine use in the United States, 1990-1997; Results of a follow-up national survey. *The Journal of the American Medical Association*, 280, 1569-1575.
- Gardiner, P., Mitchell, S., Filippelli, A., Sadikova, E., White, L., Paasche-Orlow, M., & Jack, B. (2015) Health literacy and complementary and alternative medicine use among underserved inpatients in a safety net hospital. *Journal of Health Communication: International Perspectives*, 18:sup1, 290-297, DOI: 10.1080/10810730.2013.830663.

- Glassman, P. (2014) National Network of Libraries of Medicine: Health Literacy, pp 1. Retrieved from: <http://nmlm.gov/outreach/consumer/hlthlit.html>.
- Harron, M., & Glasser, M. (2003) Use of and attitudes toward complementary and alternative medicine among family practice patients in small rural Illinois communities. *The Journal of Rural Health*, 19(3), 279-284.
- Hibbard, J. H. & Pope, C. R. (1983) Gender roles, illness orientation and use of medical services. *Social Science Medicine*, 17 (3),129-137.
- Institute of Medicine (2005) *Complementary and alternative medicine in the United States*. Washington DC; The National Academics Press.
- Kelner, M., & Wellman, B. (1997) Health care and consumer choice: Medical and alternative therapies. *Social Science and Medicine*, 45, 203-212.
- Kutner, M., Greenberg, E., Jin, Y., & Paulsen, C. (2006) The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy. Retrieved from: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006483>.
- Lee, H. (1989) *Quantitative validation of health perceptions in rural persons*. Unpublished manuscript, Montana State University, College of Nursing, Bozeman, MT.
- Long, K., & Weinert, C. (1989). Rural nursing: Developing the theory base. *Scholarly Inquiry for Nursing Practice*, 3, 113-127.
- McFarland, B., Bigelow, D., Zani, B., Newsom, J., & Kaplan, M. (2002) Complementary and alternative medicine use in Canada and the United States. *American Journal of Public Health*, 92, 1616-1618.
- McGregor, K., & Peay, E. (1996) The choice of alternative therapy for health care: Testing some propositions. *Social Science and Medicine*, 43, 1317-1327.
- National Center for Complementary and Alternative Medicine (NCCAM) (2006) *What is complementary and alternative medicine (CAM)?* Retrieved from <http://nccam.nih.gov/health/whatisacam/>.
- National Center for Complementary and Alternative Medicine (NCCAM) (2008) *The Use of Complementary and Alternative Medicine in the United States*. Retrieved from http://nccam.nih.gov/news/camstats/2007/camsurvey_fs1.htm.
- National Institute of Health (2014) Health Literacy. Retrieved from <http://www.nih.gov/clearcommunication/healthliteracy.htm>.
- National Institute of Health (2015) Medline Plus: Rural Health Concerns. Retrieved from <http://www.nlm.nih.gov/medlineplus/ruralhealthconcerns.html>.

- National Library of Medicine (2015) Health Information Seeking. Retrieved from <http://chirr.nlm.nih.gov/health-information-seeking.php>.
- National Network of Libraries of Medicine (2013) Health Literacy. Retrieved from <http://nnlm.gov/outreach/consumer/hlthlit.html>.
- Nichols, E., Sullivan, T., Ide, B., Shreffler-Grant, J., & Weinert, C. (2005) Complementary Therapy, Chronic Illness, and Older Rural Dwellers. *Journal of Holistic Nursing*, 23(4), 381-394.
- North Carolina Program on Health Literacy (2014) Literacy Assessment Tools. Retrieved from <http://nchealthliteracy.org/instruments.html>.
- Nurss, J. R., Parker, R. M., & Baker, D. W. (2001). *TOFHLA, Test of functional health literacy in adults*. Snow Camp, NC: Peppercorn Press.
- Parker, R. M., Baker, D. W., Williams, M. V., & Nurss, J. R. (1995). The test of functional health literacy in adults: A new instrument for measuring patients' literacy skills. *Journal of General Internal Medicine*, 10(10),537-541.
- Parker, R. M., & Jacobson, K. L. (2012) Health Literacy. Emory Schools of Medicine and Public Health. Retrieved from http://www.iom.edu/~media/files/activity%20files/publichealth/healthliteracy/healthliteracyfactsheets_feb6_2012_parker_jacobsonfinal1.pdf.
- Ross, H. (1982) Women and wellness: Defining, attaining, and maintaining health in eastern Canada. *Dissertation Abstracts International*, 42 (5175A).
- Rowlands, G., Khazaezadeh, N., Oteng-Ntim, E., Seed, P., Barr, S., & Weiss, B. (2013) Development and validation of a measure of health literacy in the UK: The newest vital sign. *BMC Public Health*, 13, 1-9.
- Rural Assistance Center (2015) Healthcare Access in Rural Communities. Retrieved from <http://www.raconline.org/topics/healthcare-access#barriers>.
- Shreffler-Grant, J., Weinert, C., Nichols, E., & Ide, B. (2005) Complementary therapy use among older rural adults. *Public Health Nursing*, 22(4), 323-331.
- Shreffler-Grant, J., Hill, W., Weinert, C., Nichols, E., & Ide, B. (2007) Complementary therapy and older rural women. *Nursing Research*, 56(1), 28-33.
- Shreffler-Grant, J., Hudgins, G., & Williams, A. (2009) *Health Literacy and Aging*. Unpublished learning module, Montana Geriatric Education Center, University of Montana, Missoula, MT.
- Shreffler-Grant, J., Nichols, E., Weinert, C., & Ide, B. (2010) Complementary therapy and health literacy in rural dwellers. In C. Winters (Ed.) *Rural Nursing: Concepts, Theory and Practice*, 3rd ed, 225.234. New York:Springer Publishing Company.

- Shreffler-Grant, J., Nichols, E., Weinert, C., & Ide, B. (2013) The Montana State University conceptual model of complementary and alternative medicine health literacy. *Journal of Health Communication*, 18(10), 1193-1200.
- Shreffler-Grant, J., Weinert, C., & Nichols, E. (2014) Instrument to measure health literacy about complementary and alternative medicine. *Journal of Nursing Measurement*, 22(3), 489-499.
- United States Census Bureau (2013) Geographic Terms and Concepts-Urban and Rural. Retrieved from https://www.census.gov/geo/reference/gtc/gtc_urbanrural.html.
- United States Census Bureau (U.S. Census Bureau) (2014) Ravalli County, Montana. Retrieved from <http://quickfacts.census.gov/qfd/states/30/30081.html>.
- United States Census Bureau (U.S. Census Bureau) (2015) Meagher County, Montana. Retrieved from <http://quickfacts.census.gov/qfd/states/30/30059.html> .
- U.S. Department of Health and Human Services (USDHHS) (2000) Healthy People 2010, section 11-2: *Health Communication Objective*. Retrieved November 9, 2014 from www.healthypeople.gov.
- U. S. Department of Health and Human Services (USDHHS) (2005) Plan Language: A Promising Strategy for Clearly Communicating Health Information and Improving Health Literacy. Retrieved from: <http://www.health.gov/communication/literacy/plainlanguage/PlainLanguage.htm>.
- U.S. Department of Health and Human Services (USDHHS) (2010) National action plan to improve health literacy. Retrieved from: http://www.health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf.
- U. S. Department of Health and Human Services (USDHHS) (2014) Quick Guide to Health Literacy. Retrieved from <http://www.health.gov/communication/literacy/quickguide/factsbasic.htm>.
- U. S. Department of Health and Human Services (USDHHS) (2014) Quick Guide to Health Literacy and Older Adults. Retrieved from <http://health.gov/communication/literacy/olderadults/literacy.htm#p2>.
- U.S. Food and Drug Administration (2014) Complementary and Alternative Medicine Products and their Regulation by the Food and Drug Administration, Section II. Retrieved from <http://www.fda.gov/RegulatoryInformation/Guidances/ucm144657.htm>.
- Vallerand, A. H., Foulabakhsh, J. M. & Templin, T. (2003) The use of complementary/alternative medicine for self-treatment of pain among residents or

urban, suburban and rural communities. *American Journal of Public Health*, 93, 923-925.

Verbrugge, L. M., & Wingard, D. L. (1987) Sex differentials in health and mortality. *Women's Health*, 12(2), 103-145.

Vincent, C. (1996) Why do patients turn to complementary medicine? An empirical study. *British Journal of Clinical Psychology*, 35, 37-48.

Weiss, B. D., Mays, M. Z., Martz, W., Castro, K. M., DeWalt, D. A., Pignone, M. P., Mockbee, J., & Halt, F. A. (2005). Quick assessment of literacy in primary care: The newest vital sign. *Annals of Family Medicine*, 3(6), 514-522. Doi: dx.doi.org/10.1370/afm.405

Wood, F. (2005) Health literacy in a rural clinic. *Online Journal of Rural Nursing and Health Care*. Retrieved from <http://rnojournl.binghamton.edu/index.php/RNO/article/view/187>.

Zahnd, W. E., Scaife, S. L., & Francis, M. L. (2009) Health literacy skills in rural and urban populations. *American Journal of Health Behaviors*, 33 (5): 550-557.

APPENDICES

APPENDIX A

RESEARCHER SCRIPT

Hello, my name is Kelly Gregory and I am working on a research study as part of my graduate school work. The purpose of this study is to expand the knowledge about health literacy and complementary therapies, as well as herbal remedies.

“Health Literacy” may seem confusing to many of us. Health Literacy means being able to obtain, process and understand basic health information and services well enough to make appropriate decisions.

Thank you for being willing to consider helping with this research study. This study is being conducted by nursing researchers from the College of Nursing at Montana State University. You do not need to be using complementary and alternative therapies to participate with this study.

If you are willing to participate, I have a small packet of questions for you to complete today. Your participation is entirely voluntary and your answers will be kept strictly confidential. The results will be reported on a group form without any names or identifying features. You can choose to stop or withdraw from the study at any time. You may also choose not to answer any questions that you do not wish to answer. It should take about 30 minutes all together to complete the packet.

There is four parts of the study packet and can be completed in any order. The first part contains a label from a pint of ice cream for your review and on the next page, there are 6 short questions about the information on the ice cream label. The second part contains 2 pages of short questions about complementary and alternative therapies. For the rest of the questions in the packet, please read the instructions and respond to the questions. Please mark all your answers in the booklet. I appreciate your careful consideration of each question.

Thank you for your time and attention. Do you have any questions before beginning?

APPENDIX B

CAM HEALTH LITERACY STUDY PACKET



**CAM Health
Literacy Study
Packet**



Newest Vital Sign

(Weiss, B. and colleagues)

Please review the ice cream container label on the next page and use the information to answer the following questions.

=====

Q1 - If you eat the entire container, how many calories will you eat?

Q2 - If you are allowed to eat 60 g of carbohydrates as a snack, how much ice cream could you have?

Q3 - Your doctor advises you to reduce the amount of saturated fat in your diet. You usually have 42 g of saturated fat each day, which includes 1 serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?

Q4- If you usually eat 2500 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?

Q5 -Pretend that you are allergic to the following substances: Penicillin, peanuts, latex gloves, and bee stings. Is it safe for you to eat this ice cream?

Q6 - Reason?

Nutrition Facts			
Serving Size		½ cup	
Servings per container		4	
Amount per serving			
Calories	250	Fat Cal	120
			%DV
Total Fat	13g		20%
Sat Fat	9g		40%
Cholesterol	28mg		12%
Sodium	55mg		2%
Total Carbohydrate	30g		12%
Dietary Fiber	2g		
Sugars	23g		
Protein	4g		8%
<p>*Percentage Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.</p> <p>Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.</p>			

MSU CAM Health Literacy Scale

(Shreffler-Grant, Nichols, Weinert, Ide)

Below is a list of statements about herbal products. Please place an **X** under **AGREE STRONGLY**, **AGREE SOMEWHAT**, **DISAGREE SOMEWHAT**, or **DISAGREE STRONGLY** for each statement.

		Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
Q1	The federal government sets standards for the quality of herbal products.				
Q2	Herbal products come in a variety of forms, for example, liquid, lotion, pills.				
Q3	Herbal products are readily available in a variety of				

	stores.				
Q4	There is enough information on the herbal product label to make a well-informed choice about using it.				
Q5	Herbal products sold in the USA may be made in foreign countries.				
Q6	It does not matter how often an herbal product is taken.				
Q7	There is no need to inform a health care provider about taking herbal products.				
Q8	Herbal products do not have side effects.				
Q9	The law requires that the label on				

	the herbal product contain information about what the product is supposed to do.				
Q10	If a famous person recommends an herbal product, it must work.				
Q11	The USP Verified mark means that there has been quality control in the manufacture of the herbal product.				
Q12	The words “organic” and “natural” mean the same thing.				
Q13	If an herbal product is helpful for a friend or family member it will help me.				

Q14	Herbal products can prevent most health problems.				
Q15	The way herbal products work in the body is often not known.				
Q16	It is important to know the correct amount of an herbal product to be used.				
Q17	There is plenty of good information about the quality of herbal products.				
Q18	Many herbal products can be purchased over the Internet.				
Q19	There are few research studies showing that herbal				

	products work.				
Q20	There is little research about the safety of herbal products.				
Q21	It is important to keep track of what happens after starting to take an herbal product.				

Short Test of Functional Literacy in Adults
STOFHLA
READING COMPREHENSION

HAND PATIENT THE READING COMPREHENSION PASSAGES TO BE COMPLETED. FOLD BACK THE PAGE OPPOSITE THE TEXT SO THAT THE PATIENT SEES ONLY THE TEXT.

PREFACE THE READING COMPREHENSION EXERCISE WITH:

“Here are some other medical instructions that you or anybody might see around the hospital. These instructions are in sentences that have some of the words missing. Where a word is missing, a blank line is drawn, and 4 possible words that could go in the blank appear just below it. I want you to figure out which of those 4 words should go in the blank, which word makes the sentence make sense. When you think you know which one it is, circle the letter in front of that word, and go on to the next one. When you finish the page, turn the page and keep going until you finish all the pages.”

STOP AT THE END OF 7 MINUTES

PASSAGE A: X-RAY PREPARATION

PASSAGE B: MEDICAID RIGHTS AND RESPONSIBILITIES

PASSAGE A

Your doctor has sent you to have a _____ X-ray.

- a. stomach
- b. diabetes
- c. stitches
- d. germs

You must have an _____ stomach when you come for _____.

- | | |
|-----------|--------|
| a. asthma | a. is. |
| b. empty | b. am. |
| c. incest | c. if. |
| d. anemia | d. it. |

The X-ray will _____ from 1 to 3 _____ to do.

- | | |
|---------|-----------|
| a. take | a. beds |
| b. view | b. brains |
| c. talk | c. hours |
| d. look | d. diets |

THE DAY BEFORE THE X-RAY.

For supper have only a _____ snack of fruit, _____ and jelly,

- | | |
|-----------|-----------|
| a. little | a. toes |
| b. broth | b. throat |
| c. attack | c. toast |
| d. nausea | d. thigh |

with coffee or tea.

After _____, you must not _____ or drink

- | | |
|--------------|----------|
| a. minute, | a. easy |
| b. midnight, | b. ate |
| c. during, | c. drank |
| d. before, | d. eat |

anything at _____ until after you have _____ the X-ray.

- | | |
|---------|--------|
| a. ill | a. are |
| b. all | b. has |
| c. each | c. had |
| d. any | d. was |

THE DAY OF THE X-RAY.

Do not eat _____.

- a. appointment.
- b. walk-in.
- c. breakfast.
- d. clinic.

Do not _____, even _____.

- | | |
|-----------|------------|
| a. drive, | a. heart. |
| b. drink, | b. breath. |
| c. dress, | c. water. |
| d. dose, | d. cancer. |

If you have any _____, call the X-ray _____ at 616-4500.

- | | |
|---------------|---------------|
| a. answers, | a. Department |
| b. exercises, | b. Sprain |
| c. tracts, | c. Pharmacy |
| d. questions, | d. Toothache |

PASSAGE B

I agree to give correct information to _____ if I can receive Medicaid.

- a. hair
- b. salt
- c. see
- d. ache

I _____ to provide the county information to _____ any

- | | |
|----------|--------------|
| a. agree | a. hide |
| b. probe | b. risk |
| c. send | c. discharge |
| d. gain | d. prove |

statements given in this _____ and hereby give permission to

- a. emphysema
- b. application
- c. gallbladder
- d. relationship

the _____ to get such proof. I _____ that for

- | | |
|-----------------|----------------|
| a. inflammation | a. investigate |
| b. religion | b. entertain |
| c. iron | c. understand |
| d. county | d. establish |

Medicaid I must report any _____ in my circumstances

- a. changes
- b. hormones
- c. antacids
- d. charges

within _____ (10) days of becoming _____ of the change.

a. three	a. award
b. one	b. aware
c. five	c. away
d. ten	d. await

I understand _____ if I DO NOT like the _____ made on my

a. thus	a. marital
b. this	b. occupation
c. that	c. adult
d. than	d. decision

case, I have the _____ to a fair hearing. I can _____ a

a. bright	a. request
b. left	b. refuse
c. wrong	c. fail
d. right	d. mend

hearing by writing or _____ the county where I applied.

a. counting
b. reading
c. calling
d. smelling

If you _____ TANF for any family _____, you will have to

a. wash	a. member,
b. want	b. history,
c. cover	c. weight,
d. tape	d. seatbelt,

_____ a different application form. _____, we will use

- a. relax
- b. break
- c. inhale
- d. sign

- a. Since,
- b. Whether,
- c. However,
- d. Because,

the _____ on this form to determine your _____.

- a. lung
- b. date
- c. meal
- d. pelvic

- a. hypoglycemia.
- b. eligibility.
- c. osteoporosis.
- d. schizophrenia.

Background Information

Now for just a few questions about you.

=====

Q1 Are you a

- a Woman
- b Man

Q2 In what year were you born? _____

Q3 What is the highest degree you received?

- a Less than high school
- b High school diploma or equivalency
- c Associate, two-year, trade school
- d Bachelor's degree
- e Master's degree
- f Doctorate
- g Professional (MD, JD, DDS, etc.)

Q4 What is your marital status?

- a Divorced
- b Separated
- c Widowed
- d Now married
- e Single and never married
- f Living with a partner

Q5 Have you ever used complementary or alternative therapies such as herbs, dietary supplements, acupuncture, meditation or anything else?

- a Yes
- b No

If so, did you take them to cure or prevent a health problem?

- a. Cure
- b. Prevent

c. Both cure and prevent

If so, how did you learn about potential alternative therapies?

- a. Family
- b. Friends
- c. Television
- d. Books or magazines
- e. Other: _____

Please list the complementary and alternative therapies you have tried in the past 5 years:

Q6 Do you have any significant health problems? Yes No

If so, would you please describe

Q7 How confident are you filling out medical forms by yourself?

- a Not at all confident
- b A little confident
- c Somewhat confident
- d Quite confident
- e Extremely confident

