

HEALTH LITERACY SCREENING TOOLS FOR OLDER ADULTS IN KANSAS

A Thesis by

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The following faculty members have examined the final copy of this thesis for form and content, and recommend that it be accepted in partial fulfillment of the requirement for the degree of Master of Arts with a major in Aging Studies.

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DEDICATION

To my parents, my wife, my son, my sisters, and brothers

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ABSTRACT

The population of older adults in the United States is projected to reach 71.5 million by 2030. Health literacy has been identified a solid predictor of health outcome. In the *Healthy people 2020* proclamation, limited health literacy has been linked to poor health outcomes. Overall health has been defined as the state of complete physical, mental and social well-being and not merely the absence of disease of disease or infirmity. The purpose of this study was to validate the health literacy screening tools among older adult population. Specifically, this study included two research questions including: 1) What are the health literacy rates for older adults in this population? And 2), What is the overall health status of older adults? Sixty-four older adults were recruited for this study. Data were collected at various sites from August through December 2015. The study was an assessment of self-report data using a fifty item questionnaire. Surveys were administered in-person by trained members of the research team and recorded using a web-based software application. Results of this study demonstrated that health literacy status was rated adequate at about 93.8% and rated inadequate at about 6.3% among study participants using the STOFHLA. Using the Single Item Screener, the results indicated 35.9% rated inadequate/marginal score, while also rated adequate at 64.1%. In conclusion, health literacy screening tools such as STOFHLA and Single Item Screener might provide important profile about the health literacy capacity of older adults through self-reporting. However, there is the need for more structured validation of these tools among the older adults.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
II. LITERATURE REVIEW.....	5
Definition of Terms.....	13
III. METHODS.....	14
Study Tools.....	14
Participant Recruitment and Data Collection.....	17
Analysis.....	18
IV. RESULTS.....	19
Research Question #1.....	21
Research Question #2.....	22
V. DISCUSSION.....	30
Limitations.....	35
VI. CONCLUSION.....	36
Recommendations.....	37
REFERENCES.....	39
APPENDIX.....	43
Questionnaire.....	46

LIST OF TABLES

Table	Page
I. Demographic Characteristics of Study Sample	20
II. Participants' STOFHLA Score	21
III. Single Question screener	22
IV. Participants' Health Status.....	24
V. Possible Tobacco Abuse among Participants	25
VI. Participants' Exercise Frequency	26
VII. Suggested Depression Score.....	29

LIST OF ABBREVIATIONS

AHRQ	Agency for Healthcare Research and Quality
AMA	American Medical Association
CITI	Collaborative Institutional Training Initiative
CDC	Center for Disease Control and Prevention
ELM	Elaboration Likelihood Model
HMO	Health Maintenance Organization
IOM	Institute of Medicine
IRB	Institutional Review Board
NAAL	National Assessment of Adult Literacy
NVS	Newest Vital Signs
PI	Principal Investigator
PDA	Personal Digital Assistant
PPO	Preferred Provider Organization
POS	Point of Service
REAL	Rapid Estimate of Adult Literacy in Medicine
S-TOFHLA	Shortened-Test of Functional Health Literacy in Adults

CHAPTER 1

INTRODUCTION

Health literacy has been identified as an important predictor of health outcome among older adults (Möttus, et al., 2014). The Administration on Aging has defined older adults as those individuals aged 65 years and older (AoA, 2013). Limited health literacy has been associated with medication errors (CDC, 2009). In another study, limited health literacy has been associated with increased health disparities (Serper, et al. 2014). Moreover, in a study conducted by Chiang and Jackson (2013), limited health literacy has been linked to poorer health outcomes among adults in the United States (Chiang & Jackson, 2013). In the Center for Disease Control and Prevention (CDC) 2009 report, limited health literacy among older adults has been associated with many negative health consequences including health care safety issues and increased use of health care resources (CDC, 2009).

In one article titled “Effects of Patient Health Literacy, Patient Engagement and a System-Level Health Literacy attribute on Patient-reported Outcomes: A Representative Statewide Survey”, researchers have demonstrated that health literacy demands within a health care setting may affect patients’ experiences more than the own skills suggesting that creating a health literate health care organization that can aptly respond to the needs of all patients may be more crucial than interventions to improve the health literacy skills of individual patients (Kaphingst, et al., 2014). Furthermore, Kaphingst, et al., 2014 argued that patients with limited health literacy faced complex array of communication challenges during their doctors visits (Kaphingst, et al., 2014).

The projected population expansion in the number of older adults in the United States and many other industrialized countries has made health literacy an urgent health topic (CDC, 2013). The World Health Organization defined health literacy as “The cognitive and social skills which

determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health.” (WHO, 2009). However, this broad definition only focuses on reading fluency and numeracy skills, this results to a limited interpretation of health literacy measures (Möttus, et al., 2014).

According 2009 Center for Disease Control and Prevention (CDC) expert panel report on health literacy, it is critical for the United States to improve the health literacy capability of its older adult population (CDC, 2009). In the article authored by Chiang & Jackson, it has been argued that low health literacy is more prevalent among elderly, minority, patients with poor socio-economic status, and those with less than a high school diploma. From the consumer perspective, individuals might not be illiterate, however, they might be considered low in health literacy (Chiang & Jackson, 2013). Patients and consumers are expected to know the cost, effectiveness and quality of the medical services they would need (CDC, 2009). In response to this national call, *Healthy People 2020* reaffirms the need to address limited health literacy among older adults. Some of the components supporting health literacy for the entire population include health communication strategies and health information technology (HPHP, 2020).

The CDC expert report further argues that limited health literacy has been associated with increased health disparities, poor health outcomes, increased consumptions of health care services and medical and medication errors that results from health care safety issues (CDC, 2009). Therefore, improving health literacy for the entire United States population has been identified as one of the 20 essential actions for the improvement of health care quality on a national scale (CDC, 2009). The challenge is greater among the projected 71.5 million Americans who will turn 65 years and older by 2030, double the older adult population size from 2000 (CDC, 2009). Furthermore, it has been estimated that three out of every older adult in the

United States lives with multiple chronic conditions and 66% of the national health budget is devoted to the treatment of this population segment (CDC, 2013).

In summary, older adults have been identified as facing challenges in the functionality of three physiological capacities that impairs their ability to process and effectively use health information. Due to cognitive challenge, the working memory of older adults encounters a problem of reduced processing speed, high tendency for distraction and a reduce capacity to process and recall new information (Serper, et al. 2014). Furthermore, many older Americans aged 65 and older are visually challenged. It has been estimated by CDC that about two-thirds of older adults aged 65 and above are visually impaired (CDC, 2001). According to CDC, about half of the older adults aged 85 and above lived with a hearing challenge, while one in three older adults 60 years and older also lived with a hearing challenge (CDC, 2001).

Recently, health literacy among older adults has gained the attention of public health authorities in the United States (DHHS, 2010). In the national health literacy action plan document, it has been stated that access to appropriate and practical health information and usable health services would greatly depend on a well coordinated and concerted collaboration (DHHS, 2010). Other researches has suggested that these unique health problems among older adults posed physical and cognitive health challenges (Möttus, et al. 2014). However, little evidence exists examining the tools used to measuring the health literacy capability of older adults. Three of the most commonly used health literacy screening tools used are the Rapid Estimate of Adult Literacy in Medicine (REALM) (Möttus, et al. 2014), the Test of Functional Health Literacy in Adults (TOFHLA) (Serper, et al. 2014), and the Shortened Test of Functional Health Literacy in Adults (STOFHLA) (Möttus, et al. 2014). One recently-developed health literacy screening is the three-item screening tool by Chew et al. (Chew, et al. 2004). There has

been some evidence that using one of the Chew questions, a Single Item Screener (SIS) (Morris, et al. 2006). However, there is need for the validation of these screening tools among older adults.

CHAPTER 2

LITERATURE REVIEW

According to the Institute of Medicine (IOM), health literacy is defined as “the degree to which an individual has the capacity to obtain, communicate, process and understand basic health information and services to make appropriate health decisions” (IOM, 2004). In order to enhance health literacy both the capacity and the skills were found inherently relevant (CDC, 2009). Capacity in the context of health literacy has been defined as the potentials necessary to be able to apply some skills in order to accomplish something in a health situation (Jones, 2011). According to CDC, anyone who needs health information and health services would inevitably need to improve their health literacy skills. This includes not only the public but physicians, nurses, dentists, pharmacists, and public health workers (CDC, 2009). In an article authored by Chiang and Jackson (2013), it has been argued that advocates and policymakers have expressed the need to tackle barriers caused by low health literacy in order to enhance access to health care services. Moreover, the report prepared by the Institute of Medicine (IOM), titled “A prescription to end confusion in 2004”, justified the need to improve health literacy (Chiang and Jackson, 2013).

In the United States health care system, efforts were made to develop a national document that clearly spell-out strategies and goals to improve health literacy at all levels of the health care system. The population of the United States referred to as older adults has been defined by the Institute of Medicine (IOM) as Americans aged 65 years and older in their report titled “Retooling for an Aging America: Building the Health Care Workforce”. (IOM, 2008). According to a study conducted by Wohlgenant, et al. (2012), previous researches have revealed the need for educating older adults on food safety. They argued that although, health care

providers have been the frontline source of information to older Americans, however, physicians and other health care professionals might not be providing information on food safety and safe handling practices, hence, a need arise for older people to be educated about food safety issues (Wohlgenant, et al.,2012).

In his executive comment, Dr. Howard K. Koh, the Assistant Secretary of Health, stated in his experiences in treating patients, leading a large government agency, and supervising academic research have recognized the need for health literacy to become a public health priority (DHHS, 2010). Also the findings of a study conducted by the National Assessment of Adult literacy (NAAL, 2003) has suggested a significant need for public health authorities to focus on the health literacy challenges of older adults. (CDC, 2009). The CDC expert panel argued that the challenges of interpreting health information especially among the increasing population segment of people aged 65 years and older in the United States is of critical importance. (CDC, 2009) In an attempt to call to action on health literacy matters of older adults, the Center for Disease Control and Prevention (CDC) convened a meeting in December, 2007 to deliberate on ways to improve health literacy for older adults (CDC, 2009). Furthermore, the successes of the objectives of the *Healthy People 2020* cannot be independently achieved without improvement in health literacy. Additionally, the need for basic health literacy is fundamental to each interaction between health care professionals and patients particularly the elderly (HPHP,2020).

The need for improvement in health literacy has been captured in the *Healthy People 2020* National Health Agenda. However, a study conducted by the United States Department of Education revealed that only about 12 percent of all English-speaking adults in the United States are proficient in health literacy (DHHS, 2010). It was estimated that 9 out of 10 adults in the United States experiences some difficulty in using the day-to-day health information used in the

health facilities Health and Human Service (DHHS, 2010). Nationally, the need and urge to improve health literacy across United States has become more reinforced as justified in the *Healthy People 2020*. In the CDC, 2009, it has been vehemently argued that limited health literacy hinders the ability of health care consumers to sort through confusing health information to make choices that procedures and treatment options that are unfamiliar. Therefore, in order to protect and promote their own health, the health of their loved ones and communities, it becomes imperative that older adults' health literacy should be improved (CDC, 2009).

The expansion in the aging population of the United States has further magnified the need for improvement in health literacy. In a statistical estimation of the magnitude of the problem of low health literacy among older adults in the united states, a CDC report indicated that about 71% of adults over 60 years and above have difficulty using printed materials, while 80% faced difficulty using forms and charts and 68% are challenged with the difficulty of dealing with numbers or doing calculations (CDC, 2009). These figures were adopted from the National Assessment of Adult Literacy (NAAL, 2003). According to Serper, et al (2014), one of the major challenges meted out to the estimated 80 million Americans with limited health literacy is the problem of developing and evaluating effective behavioral and health system interventions. Of paramount focus towards preventive care and chronic disease management, some interventional studies have heeded varying results about health literacy disparities in relation to certain health outcomes. This includes diseases that can be self-managed, health comprehension, diabetic control, medication adherence and hospitalizations (Serper, et al. 2014).

In the center of their proposition, Serper, et al 2014 argued that patients' capacity to manage personal health in order to make apt medical decisions potentially relies on the various cognitive skills (Serper, et al., 2014). Extensive parallel studies have demonstrated associations

between cognitive skills, in the light of memory, speed of processing and reason with medication adherence, clinical outcomes, and physical and mental health (Serper, et al., 2014). According to CDC projection, by 2030, 71.5 million Americans will be 65 years and above. Due to this forecasted demographic shift in the American population, it is argued that older adults will use more medical care due to increased prevalence of chronic diseases. Hence, The NAAL predicts that improving health information and services is an urgent need in the attempt to improve the health of older people (CDC, 2009) Morris, 2006, in their study on the Health Literacy, cognitive ability, and functional health status among older adults argued that patients' ability to make suitable medical decisions is based on a broad array of cognitive skills such as active processing, remembrance, and application of learned information in the context of health care service. Therefore, it becomes imperative to clarify concepts such as limited health literacy in the context of cognitive abilities (Morris, 2006).

Through the national plan of action on health literacy, several states have taken the initiative to improve literacy among its older population (DHHS,2010). In 2011, Jones conducted a nation-wide descriptive study on health literacy, diabetic knowledge, self-efficacy and disease self-management among African American minorities. In his study, Jones, (2011) used the Rapid Estimate of Adult Literacy in Medicine (REALM) and Albert Bandura's social cognitive theory as parameters in determining behavioral changes in relation to educational level among older adults. A total of 50 participants were included in this study, a segment of which is recruited from a community church in one Midwestern County. According to Jones, (2011), low literacy can reduce an individual's participation in health care settings, impact patient-physician communications and even result to the delivery of poor medical care to patients. Stewart, et al. 2014, in their study titled "Associations between Health Literacy and Established Predictors of

Smoking Cessation” also mentioned self-efficacy as an important psychosocial skill that can influence individuals’ confidence in pursuing the change they desire. For instance, self-efficacy was found to be a good predictor of successful cessation outcomes (Stewart, et al. 2014).

Furthermore, Jones, (2011) also quoted the Agency for Healthcare Research and Quality, 2004 (AHRQ, 2004) that low literacy is has been found more prevalent among certain racial or ethnic groups and the elderly. Jones, (2011) strongly argued that in order to enhance self-management and self-efficacy among elderly diabetes, their health literacy skills would also need to be improved. Albert Bandura’s social cognitive theory that discusses self-efficacy increases patient confidence in their ability to management diabetes. However, the health literacy level of the patient serves an important predictor in the overall success of the management of diabetes (Jones, 2011). According Jones, (2011), health literacy has been demonstrated by some other studies to be a stronger predictor of health status than socioeconomic status, age and ethnicity (Jones, 2011).

One extensive systematic literature review from 1980 to 2003 also revealed that low literacy has been associated with increased odds of noncompliance to medication, high chances of hospitalization and decreased glycemic control as in the case of diabetics (Jones, 2011). Low literacy has also been depicted as a very important independent predictor of several chronic diseases such as HIV-medication noncompliance, diabetes self-management and asthma (Jones, 2011). In response to this urgent call for improvements in health literacy among older adults and minorities, the IOM recommends for a greater involvement of the users for any particular health literacy program in order to fully integrate the cultural and language preferences of the population it is intended for. (Jones, 2011). In the article authored by Mõttus and colleagues, they suggested that cognitive ability may be responsible for some of the links between health

literacy and actual health outcomes. If this proposition holds evidence, then cognitive ability and knowledge that are specific to negative health outcome and any plans to improve health literacy should then be informed by attempts to increase general cognitive ability (Möttus, et al. 2014).

In a literature review co-authored by Chiang and Jackson, 2013, a prediction was made that nearly 90 Million American adults have limited health literacy making them more susceptible to poorer health outcomes. The segments of the American population mainly affected by low health literacy are the elderly, minority, less wealthy and those with less than a high school education. They also argued that two of the most widely used health literacy screening tools namely Rapid Estimate of Adult Literacy in Medicine (REALM) and the Test of Functional Health Literacy in Adults (TOFHLA) were found to be limited in their ability to reflect a comprehensive assessment of health literacy. However, they both retain the potency to measure reading and print literacy among older adults (Chiang & Jackson, 2013).

The IOM also reported that about half of the United States adult population lacks the literacy skills to comprehend and use health information (IOM, 2004). The American Medical Association (AMA) also argued that poor health literacy is a more profound predictor of a person's health than age, income, employment status, education level and race (Chiang, & Jackson, 2013). From a marketing and consumer relationship stance, Chiang, & Jackson, 2013 stated in their study that taking health decisions becomes a more complex process as individuals attempt to process information in the context of health literacy. Using the Elaboration Likelihood model (ELM), an attempt was made to understand the mental processes involved in information synthesis in the domain of health literacy (Chiang & Jackson, 2016). This study also ascertained that low health literacy becomes predominantly challenging among the elderly, minority and people with low socioeconomic status (Chiang, & Jackson, 2013).

Despite the use of two common measuring tools of health literacy, Rapid Estimate of Adult Literacy in Medicine (REALM) and Test of Functional Health Literacy in Adults (TOFHLA), they both remain comprehensively unsuccessful because each of them alone focuses on reading potential. Hence, a recommendation emanates from the Institute of Medicine (IOM) for experts to create, test and use culturally suitable parameters for measuring health literacy among populations (Chiang, & Jackson, 2013). Moreover, Chiang, Jackson also argued that even though there are many practical approaches to promoting health literacy, it is not obvious as to how health information can have positive effect on health literacy level (Chiang, & Jackson, 2013). The functional basis of medical information has been broadly categorized into two areas. These includes the cognitive skills which entails the reading and math skills and the psychosocial skills which includes the self-efficacy and communication skills. According to Chiang, & Jackson, learning challenges, poor reading, and writing and numerical skills could all contribute to poor health literacy (Chiang, & Jackson, 2013). From the marketing and responsiveness perspective, it has been argued that cognitive effort is dependent on situational and individual factors. Hence, based on the relative cognitive efforts, the Elaborative Likelihood Model could potential explain how individuals process information either centrally or peripherally (Chiang, & Jackson, 2013).

In one study, Johnson et al (2014) looked at the links between health literacy and physical health using all the REALM, STOFHLA and the NVS but concluded that low health literacy was associated with worse health simply because it generally reflects the cognitive ability, educational, and occupational levels (Johnson, et al., 2014). From their perspective, the nation's premier institution for health care research, the Institute of Medicine (IOM) has described low literacy among older adults as "silent epidemic", strongly arguing that almost half of the entire

adult population of the United States lacks the literacy skills to understand and use health information. In the light of high prevalence of chronic conditions, the American Medical Association (AMA) has predicted low health literacy could potentially limit older adults' knowledge about health and other healthcare issues, thereby resulting to poor self-management of long term conditions (Chiang, & Jackson, 2013).

In one major study conducted by Martinez-Donate, et al. 2013, an attempt was made to investigate health literacy and health system navigation needs among rural cancer patients. According to this study, rural inhabitants are more vulnerable to effects of disparities particularly among cancer-related outcomes. Health literacy that has been identified as a very critical element in the continuum of cancer care in terms of prevention, screening, and even explanation of diagnosis and treatment. In the United States about 21% of cancer survivors live in the rural areas, usually older, minimally educated and belonging to lower socioeconomic status. The characteristic differences between rural and urban older cancer patients indicate that patients in the rural areas are at high chances of experiencing health literacy barriers (Martinez-Donate, et al., 2013).

Additionally, Martinez-Donate, et al. 2013 used the Chronic Care Model which has been designed and implemented to improve health care delivery for rural dwelling cancer patients. They argued that cancer patients in rural areas are more likely to experience health literacy barriers and less likely to be part of decisions relating to the treatment course (Donate-Martinez, et al. 2013). In this regard, health literacy has been used for both system and individual level concepts that is integral in the effective implementation of the chronic care model. Due to the high prevalence of chronic conditions among older adult population, the Chronic Care Model

presents some important implications for patient-provider communication as it relates to health literacy (Donate-Martinez, et al. 2013).

Furthermore, the authors of this research conclusively argued that health literacy and its associated implications on older patients, providers and the general delivery of care is an overarching concept. However, effective patient-provider communication among older rural patients have been viewed as a centerpiece to patient-centered cancer care and this has been found to be positively correlated to improved patient outcomes (Donate-Martinez, et al. 2013). For the purpose of this study we define overall health as the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO constitution, 1948). The purpose of this study was to examine the following three questions:

Research Question (RQ) 1: What are the health literacy rates for older adults in this population?

Research Question (RQ) 2: What is the overall health status of older adults?

Definition of Terms

Overall Health- Overall health as the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO constitution, 1948).

Older Adults-The segment of the American population that are 65 years and above.

Healthy People Initiative-This is program designed by the United States Department of Health and Human Services in which disease prevention and health promotion goals are set.

REAL-Rapid Estimate of Adult Literacy in Medicine.

Single Question Screener-The single item literacy screener has been used in the identification of limited reading ability

CHAPTER 3

METHODS

This pilot study was part of a larger investigation for health, health literacy and older adults. This collaborative study included faculty members from the Department of Public Health Science (PHS) and the Physician Assistant (PA) Department- to include two PHS students, two PA students. All research team members completed Wichita State University's Institution Research Board (IRB) recommend training for the protection of human subjects in research and subscribed to the Qualtrics system through the University account. This study was approved by the University IRB for the protection of human subject #3355.

All data collection tools and questions were input into the online survey software called Qualtrics. It took a couple of weeks to use qualtrics software to build the questions. Some of the questions were built using the matrix table that is an in-built tool in the qualtrics software. Qualtrics is a premier web-based software use by many higher education institutions in the United States including Wichita States University. This software is very user friendly, it is compatible with many smart phones that have a web browser.

Study Tools

This study included multiple validated questionnaire as part of the overall study. Participants were assessed for cognitive skills using the Standardized Mini-Mental State Examination (MMSE) and completed a standard vision screening assessment in order to participate in the study (corrected vision 20/100). Questionnaire items demographic items (age, employment, household income and technology) Assessment of participant health included self-report of health status, the CAGE questionnaire (smoking behavior), physical activity, and depression. Two questionnaires were issued to measure participant health literacy rates.

Research Question 1: Health Literacy Assessment Tools. Participants completed the 36-item Short Test of Functional Health Literacy Assessment (STOFHLA) using the standard procedure, scoring, and interpretation (Baker et al., 1999). Per the instructions, participant responses are scored as: Inadequate health literacy (0-16), marginal health literacy (17-22), and adequate health literacy (23-36) (Lisa, et al., 2004). **Needs some work**

Research Question 2: Overall Health Status Tools. Participants’ overall health is also measured using the self-reported rating that is based on a scale of excellent to poor health. Possible tobacco abuse among study participants was used as a measure of participants’ overall health status. The CAGE screening instrument which stands for cut-down, annoyed, guilt, and eye-opener was used to assess possible tobacco abuse among study participants. The CAGE tool is a brief screening tool used in measuring addiction behavior and substance dependence (Hormes, et al., 2014).

TABLE 4 PARTICIPANTS’ HEALTH STATUS

	Frequency	Percent	Valid Percent	Cumulative Percent
Excellent Health	10	15.6%	15.6%	15.6%
Above average Health	20	31.3%	31.3%	46.9%
Average health	28	43.8%	43.8%	90.6%
Below average health	5	7.8%	7.8%	98.4%
poor health	1	1.6%	1.6%	100.0%
Total	64	100.0%	100.0%	

TABLE 5. POSSIBLE TOBACCO ABUSE AMONG PARTICIPANTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No tobacco abuse	59	92.2%	92.2%	92.2%
Possible tobacco abuse	5	7.8%	7.8%	100.0%
Total	64	100.0%	100.0%	

TABLE 6. EXERCISE FREQUENCY AMONG PARTICIPANTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Rarely	12	18.8%	18.8%	18.8%
1 time per week	4	6.3%	6.3%	25.0%
2-3 times per week	25	39.1%	39.1%	64.1%
4-6 times per week	13	20.3%	20.3%	84.4%
More than 6 times per week	8	12.5%	12.5%	96.9%
I Don't know	2	3.1%	3.1%	100.0%
Total	64	100.0%	100.0%	

TABLE 7. SUGGESTED PARTICIPANT DEPRESSION SCORE

	Frequency	Percent	Valid Percent	Cumulative Percent
No Depression	56	87.5%	87.5%	87.5%
Suggestive of mild depression	5	7.8%	7.8%	95.3%
Suggestive of severe depression	3	4.7%	4.7%	100.0%
Total	64	100.0	100.0%	

Participant Recruitment

The majority of the participants of this study were recruited at community sites. Study planning and questionnaire pilot testing began in August 2015. Data collection ran August through December 2015. In order to increase participant based, convenience sampling was used included. Respondents were age 65 and older, English speaking with corrected vision of 20/100 or better and normal cognitive function. An information sheet about the study was made available to all participants when they are attending local community events for older adults. After learning about the study from the recruitment flyer, the participants indicated to a member of the community site or the research team that they were interested in participating in the study. The member of the research team scheduled an appointment at the convenience of the participant. The participant was directed to a private area to meet with the investigator to learn about the study, its requirements and eligibility. Participants were guided through the informed

consent process and the investigator answered additional questions about study activities. If the person chose not to participate, she/he was thanked.

Analysis

All data was analyzed using descriptive statistics and SPSS statistics version 19.0, that is compatible with windows 10 was also used in analyzing the data of this study. The version used has been released in 2010. After running a statistical test on health status and health literacy among the study participants that reported to be in 'good spirit' for most of the time, the results show a $p < .05$, the results indicated a significant relation between health literacy and health status. This statistical tool is produced by the IBM Corp, Armonk, New York.

CHAPTER 4

RESULTS

Sixty-four (64) older adults participated in the study. Total household income is referred to as the total annual earning of an entire house unit (married/single). Several key variables were identified among the study participants for demographic characteristics. The majority of the participants were unemployed with about 73.4% of the study participants self-reporting unemployed. Although, there were 17.2% of the participants who self-reported a full-time employment, while 9.4% also self-reported a part-time employment. The findings also depicted that as low as 1.6% of the study participants self-reported being a student. Income variability was as assessed as a demographic factor. As indicated in the table, a greater majority of about 29.7% self-reported a total household income that falls between \$50,000-\$74,999 (Table 1).

The Majority of the study participants reported having either Medicare /Medicaid as the health insurance provider. Results aligns with the inclusion criteria for all participants to be 65 years and older. About 28.1% of the participants also have preferred provider organization insurance plan. Electronic used was also assessed as a demographic factor among the study participants. 64.1% of the participants self-reported to have a cell phone that has a web browser (Table 1). 81.3% of the participants use computer at home. The public use of computer among the study participants was 14.1%. 85.9% of the participants had no access to public computers. Below is the presentation of the demographic variables (Table 1).

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF STUDY SAMPLE (N=64)

	N	Percentage (%)
Household Income		
< \$25,000	14	21.9%
\$25,000-\$39,999	14	21.9%
\$40,000-\$49,999	8	12.5%
\$50,000-\$74,999	19	29.7%
\$75,000-\$99,999	5	7.8%
> \$100,000	4	6.3%
Health Insurance		
Medicare/Medicaid	39	60.9%
PPO	18	28.1%
HMO	6	9.4%
POS	1	1.6%
Other	1	1.6%
Employment		
Full-time	11	17.2%
Part-time	6	9.4%
Student	1	1.6%
Not Employed	47	73.4%
Technology Use – Cell Phone Use		
Cell phone with internet	41	64.1%
Cell phone without internet	15	23.4%
No cell phone	9	14.1%
Technology Use – Computer Access		
Use computer at work	14	21.9%
No computer at work	47	73.4%
PDA with internet	1	1.6%
Technology Use – Home Computer		
Computer at home	52	81.3%
No access at computer at home	12	18.8%
Technology Use – Public Computer		
Access to public computer	9	14.1%
No access to public computer	55	85.9%

Research Question #1

What are the health literacy rates for older adults in this population?

The health literacy capacity of study participants was assessed using the Short Test of Functional Health Literacy in Adults (STOFHLA). In this segment, study participants were asked basic questions about medical forms or simple terms used in filling medical forms. Two passages were presented to study participants to fill the blank spaces with the right terminology. The first passage asked study participants about terms relating to X-ray procedures. When study participants were asked to fill out the missing term for the statement “your doctor has sent you to-----”. the results of the study indicated that 93.8% of the study participants showed adequate health literacy, while 6.3% indicated an inadequate health literacy as measured by the STOFHLA.

TABLE 2. PARTICIPANTS’ STOFHLA SCORE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Inadequate	4	6.3%	6.3%	6.3%
Adequate	60	93.8%	93.8%	100.0%
Total	64	100.0	100.0%	

The second passage also assessed the study participants' ability to filled medical forms using the Single Item Screener tool. Prominently, most of the study participants were able filled in the right term for the blank space. One question specifically asked study participants about a question regarding the Medicaid form. The findings indicated that 64.1% of the study participants depicted adequate health literacy, while 35.9% of the study participants showed inadequacy in their health literacy capacities. The findings suggested that using the Single Item screening tool can help to categorize older adults' health literacy level as inadequate/marginal, and adequate health literacy.

TABLE 3. PARTICIPANTS' SINGLE QUESTION SCREENER SCORE

	Frequency	Percent	Valid Percent	Cumulative Percent
Inadequate/Marginal	23	35.9%	35.9%	35.9%
Adequate	41	64.1%	64.1%	100.0%
Total	64	100.0%	100.0%	

Research Question # 2

What is the overall health status of older adults?

The health status of study participants was measured using questions that focus on the respondents' subjective impression about the current state of their health. The results of the study revealed that about 95% of the subjects claimed to be satisfied with their health, while approximately 5% do not feel satisfied with the health. Although the progression in aging has

been associated with a reduction in the activity level of older people. The results of the study indicated that about 77% of the study participants said they continue to do the things they like while 23% said they have stopped doing some of the things they like.

To determine the health status of the study participants, the study participants were asked “Do you feel that your life is empty?”. About 92% of the study subjects claimed that their life still feels enriched with engagements while 8% reported their life felt empty. However, this was not consistent with the level of boredom experienced by study participants. The findings revealed that about 68% of the study participants indicated they do not feel bored with their life, while 32% reported that they sometimes feel bored. Finally, study participants were asked “ Are you in good spirits for most of the time? “. About 92% reported to be in good spirit for the most part, but 8% of the study participants claimed that they are not in good spirit for the most part of their day.

In response to this research question, the findings of the study indicated that the majority of older adults self-reported their overall health status to be at average health with a percentage of 43.8 %, about 31.3% also self-reported above average health status, another 15.6% also self-reported their health to at an excellent status. However, the findings also depicted that 7.8% self-reported below average health status and about 1.6% self-reported poor health (Table 4).

TABLE 4. PARTICIPANTS' HEALTH STATUS

	Frequency	Percent	Valid Percent	Cumulative Percent
Excellent Health	10	15.6%	15.6%	15.6%
Above average Health	20	31.3%	31.3%	46.9%
Average health	28	43.8%	43.8%	90.6%
Below average health	5	7.8%	7.8%	98.4%
poor health	1	1.6%	1.6%	100.0%
Total	64	100.0%	100.0%	

Smoking and frequency of exercise level were also assessed among the study participants. The results of the study showed that about 92.2% of the study participants self-reported no tobacco abuse and only 7.8% of the study participants self-reported the possibility of involving in tobacco abuse. Tobacco use is depicted as an unpopular health compromising habit among the study participants. As substantiated by the findings of this study, the greater majority of the study participants have self-reported no tobacco abuse (Table 5).

TABLE 5. POSSIBLE TOBACCO ABUSE AMONG PARTICIPANTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No tobacco abuse	59	92.2%	92.2%	92.2%
Possible tobacco abuse	5	7.8%	7.8%	100.0%
Total	64	100.0%	100.0%	

The findings of the study also suggested that about 41.3% of the study participants said they regularly engaged in a mild to moderate exercise activity two to three times per week. The results also depicted that about 20.6% of the study participants said they usually engaged in a mild to moderate exercise four to six times per week, while 19% reported that they rarely conducted any exercise. Approximately, 12.7% of the study subjects also claimed to engaged in mild to moderate exercise at least six or more times per week and about 6.3% said they are only engaged in exercise activities once a week (Table 6).

TABLE 6. EXERCISE FREQUENCY AMONG PARTICIPANTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Rarely	12	18.8%	18.8%	18.8%
1 time per week	4	6.3%	6.3%	25.0%
2-3 times per week	25	39.1%	39.1%	64.1%
4-6 times per week	13	20.3%	20.3%	84.4%
More than 6 times per week	8	12.5%	12.5%	96.9%
I Don't know	2	3.1%	3.1%	100.0%
Total	64	100.0%	100.0%	

The study also directed some questions to determine the major fears and worries of the study participants as a predictor of their overall health. Study participants were asked whether they are afraid that something bad might be befall them. About 82% of the study population believed that nothing bad will happen to them while almost 18% of the study participants have worries that something bad might happen to them. Happiness that is subjective by definitive terms was also measured among the study subjects. According to the findings, 91% of the study participants reported that they feel happy for most of the time. However, 9% of the study subjects reported that they do not feel happy for most of the time. The question of helplessness

was also assessed among the study participants, 12% of the subjects responded they sometimes feel helpless and about 88% reported that they usually have help whenever they are in need.

Other measures of activity and engagement among older adults was also assessed. The study participants were asked what would be their preference in terms of staying at home or going out to try new things. The results indicated that 63% of the subjects preferred to explore other new things while 37% suggested that they would preferred to stay at home. The memory status of the study subjects was also assessed as a predictor of overall health status of the study participants. About 86% of the study participants reported to have no memory problem, but as small as 14% of the subjects claimed to face some memory challenge sometimes.

Aging experience was also assessed among the study participants. study participants were asked about their overall impression about being alive, about 94% reported to be satisfy to some degree, while only 6% said they do not feel great living. Consistently, another assessment parameter was posed to the study subjects asking them whether they feel worthless. Approximately, 95% of the subjects reported to feel very useful to themselves and only 5% expressed feeling of worthless as they aged. However, there are about 60% of the study participants who says they feel full of energy while only 40% also claimed to be low energy. According to the findings, 91% of the study participants believed that they are better off than many people and only 9% believed that they are not better off than most people.

The availability of informal help is an essential part of the life of many older adults. One central question posed to the study subjects was “How often is each of the following kinds of support available to you if you need it?”. The results generated from this question indicated 44.6% of the study participants reported the availability of someone to talk to at all times, 33.8%

claimed that they typically have someone to confide in for most of the time, 10.8% says they only have someone to talk to some of the time, 7.7% says they only get someone to talk to talk just a little of the time, and about 3.1% reported they have ‘someone to confide in or talk to about your problems, at all times’.

The study respondents were also asked whether they usually have someone to get together for relaxation. The results depicted that about 39.1% have someone available at all times to relax with, 28.1% reported that they have someone available for most of the time, 23.4% claimed to have someone to relax with some of the time, 6.3% said they only have someone to relax with for a little of the time, and about 3.1% said they don’t usually have anyone to relax with. Another question posed to respondents is whether they usually get help when they need help with their household chores when they are sick. The findings indicated that 36.9% of study participants claimed to have someone to help with their chores at all the times when they are not feeling well, 33.8% said they have help with household chores when they are sick, 12.3% claimed to receive help some of the times that they need help with household chores, 7.7% reported to have help with their household chores a little of the time, and 9.2% said they do not usually get help with household chores when they are sick.

The study also investigates whether older adults have someone to seek out for support through either family or friendship network. on issues of their concern. This question was intended to assess depression among the study participants. The findings were ranked from no depression signs to severe depression. The findings indicated that 87.5% of the study participants were suggestive of depression signs, 7.8% showed mild depression, and 4.7% suggestively indicated severe depression (Table 7).

TABLE 7. SUGGESTED PARTICIPANT DEPRESSION SCORE

	Frequency	Percent	Valid Percent	Cumulative Percent
No Depression	56	87.5%	87.5%	87.5%
Suggestive of mild depression	5	7.8%	7.8%	95.3%
Suggestive of severe depression	3	4.7%	4.7%	100.0%
Total	64	100.0	100.0%	

CHAPTER 5

DISCUSSION

Several studies have illustrated that older adults with limited health literacy skills are at higher risk of poorer health outcomes (Möttus, et al. 2014). This vulnerability has been found more noticeable among the elderly, minority, less wealthy and those who have minimal educational attainment (Stewart, et al., 2013). Overall health status was rated high among the majority study participants. The Short Test of Functional Health Literacy in Adults (STOFHLA) score among the study participants indicated adequacy in the health literacy potential. The findings indicated that about 93.8% score adequate on STOFHLA and 6.3% inadequacy score. The findings in this study were consistent with most of the past studies on health literacy among older adults that were conducted in other geographical locations than Kansas (Donate-Martinez, et al. 2013).

The findings indicated that about 73.4% of the study participants reported to be unemployed, 17.2% reported to work a full time job, and 9.4% work a part-time job. Participants reported their health status as average with 43.8% rating, 15.6% rated their health status as excellent in status. About 31.3% also reported their health status to be above average. In this study, participants' health status was most frequently reported as average and majority had a high health literacy level. There is the prior evidence that perception of ones' own health status as better is can be a significant predictor of health literacy among older adults. In the study conducted by Chiang and Jackson (2013), they have argued that the US health care system is shifting towards consumer-centric, in which health care consumers including the older adult population would be obligated to take a more active role on issues relating to their healthcare.

This makes, the relationship between poor literacy and health status all the more important (CDC, 2009).

Furthermore, Chiang and Jackson (2013), in their research predicted that an estimated 90 million elderly Americans are challenged with the difficulty of comprehending and using health information. Although the object of this study was to attempt to understand, consumer reactions and behaviors in processing advertisements using the model called Elaboration Likelihood Model (ELM). The Elaboration Likelihood Model which has been commonly used in the marketing field in explaining attitudinal change through promotions uses two process routes. These are the centrally processed information and peripherally processed information. This model depends more on how systematically and deeply the information is been processed, hence it does not appropriately help in determining health literacy among older adults (Chiang, & Jackson, 2013).

The Rapid Estimate of Adult Literacy in Medicine that remains to be used in measuring health literacy does not aptly measure health literacy because it focuses more on the reading skill (Kaphingst, et al., 2014). Another health literacy measuring tool also used is the Test of Functional Health Literacy in Adults. This testing tool is also design to measure print literacy (Chiang, & Jackson, 2013). Both the TOFHLA and the REALM are structurally incapable of measuring the health literacy of older people in a wholesome capacity. However, self-reported health assessment can provide significant information about an older peoples' sense of satisfaction about personal health. This might only give a subjective reported about the current health status but would be able to give the comprehensive health status of older people (Kaphingst, et al., 2014). In this study 91% of study participants claimed that they feel happy about themselves for the majority of the time and only 9% out of the study study participants claimed to feel unhappy with themselves due to their current status of health.

In article written by Serper, et al. (2014), an attempt was made to examine health literacy in the context of cognitive ability and functional health status among older adults. The findings suggested that low health literacy, after been validated using TOFHLA, REALM, and NVS has been found to be a risk factor for inadequate health knowledge, poorer self-care ability, greater morbidity, and mortality as well as lower self-reported health (Serper, 2014). Therefore, using these traditional testing tools for older adults' health literacy status mostly represents the cognitive function instead of assessing the comprehensive health status. The self-report information provided by the majority of the study study participants suggested associations between health literacy and physical and mental health.

During the study, the prevalence of smoking was also assessed among the study participants. When the study participants were asked whether they have at any point their life

attempted by cut down on their smoking or even attempt to control it. The prevalence of smoking among older adults was indicated by low. The findings of this study also illustrated that about 92.2 % of the respondents claimed that they never have any reason be annoyed by other peoples' comment about their smoking habit because they do not smoke. However, approximately, 7.8% of the study participants said they feel annoyed by other peoples' comment about their smoking habit. This substantiate the standpoint that many older adults choose not be involved in smoking though, cessation attempts might be influenced by health literacy status.

According Stewart, et al. (2013), in their study titled “Associations Between Health Literacy and Established Predictors of Smoking Cessation”, after employing the REALM testing tool among the study participants concluded that nicotine dependent is found common among individuals with lower health literacy. Other factors also found to be associated to low health literacy includes less knowledge of smoking risks, more positive and less negative smoking expectancies, and lower smoking risk perceptions (Stewart, 2013). The results of the suggested that smoking is an unpopular health compromising habit among older adult in Kansas. Smoking as a factor for assessing health status among the participants of this study have demonstrated that possible tobacco abuse might be less prevalent among older adults. This might also be suggestive that older adults might be a little more informed about the associated health risks of smoking habit. Less knowledge about smoking-related health effects has been linked to lower health literacy, while higher health literacy has been associated with less likelihood of tobacco use (Stewart, 2013). The habit of not smoking in early ages is a way to practicing health behaviors and this also decreases the chances of developing chronic diseases in the later life (CDC, 2013).

The physical activity level of the study participants was assessed a determinant of health status. Participants self-reported the frequency of their physical activity level per week. Physical

health status of older adults represents an important aspect of their overall health. Some studies have suggested that regular physical activity combined with healthy diet decreases the risk of developing heart disease, cancer, diabetes and other chronic diseases (CDC, 2013). Maintaining physical health has been recognized as an important component of preventive health. The CDC state of Aging and health report, 2013, has argued that poor physical health would compromise self-management of chronic diseases among older adults (CDC, 2013). 39.1% of the participants of this study are engaged in exercise for two to three times per week, 20.3% also engaged in exercise for four to six times per week. However, it is interesting that our results also indicated that 18.8% of the participants rarely engaged in exercise. This might be due to other reasons such as chronic diseases. Older adults face challenging physical and cognitive health issues as aging progresses (CDC, 2009). Sensory impairments have been also linked to increase compromise of physical health. Impaired sight and failing hearing were both associated with decreased physical, functional, emotional, and social health status of older adults (CDC, 2001).

Depression was also assessed in this study as a factor of overall health status. Although, depression and other mental health conditions among older adults might not be fully reported, however, due to age-related challenged such as mobility, limitations in daily activities, physical impairment, even grief following loss of loved one could cause depression among older adults (CDC, 2013). The majority of the study participants indicated no depression with a percentage score of 87.5%. There were 7.8% of the study participants that indicated a mild depression and 4.7% also suggested a severe depression. Some researchers have also implicated isolation as a common influencing factor to depression among older adults (CDC, 2001).

Limitations

Like in all studies, there were some limitations that were identified during the course of this study. The first limitation that became eminent in this pilot study is the methodology of data collection, which by design self-reporting. This kind of data collection methods might sometimes lead to false reporting. Hence, introducing recall bias in the results. Therefore, self-reported data collection methods compromise the validity of studies (Kaphingst, et al., 2014).

The use of convenience sampling approach to recruit more study participants could also potentially introduce biasness in this study. Some of the study participants were met at their own premises at the time convenient for them. The conduction of research in such settings might lead to false reporting. I also used the nonrandomized data collection was used which also causes biasness in the data collection processes (Prins, and Monnat, 2015).

Pilot studies are often small in sample size. This serves as a limitation to the generalizability of the study findings. Also the due to smaller sample size, the findings of this study might not fully represent the general older adult population in Kansas and the United States (Woodard, et al., 2014). Due to diversity, other minority populations in the United States might not be fully represented in this study. This serves as another limitation in this study.

Some of the questionnaires used in this study were structurally long. This could potentially frustrate and fatigue some of the study participants (Martinez-Donate, et al. 2013). Hence this could lead to false reported biasness among the study participants. Some of the questions that might require minimum thinking might also frustrate the study participants.

CHAPTER 6

CONCLUSION

The findings of this study demonstrated that self-reported data collection through the use of the shorten Test of Functional Health Literacy in Adults (STOFHLA) and Single Item Screening. Tools might provide important profile about the Health Literacy capacity of older adults. However, there is the need for a more rigorous assessment of the existing health literacy tools to determine their full efficacy in measuring the health literacy capacity of older adults. It is also a strength of this study to suggest the need for further validation of Health literacy tools among older adults as an important public health agenda. With the expansion in the older adult population, this study stresses the need for public health researchers, health policy experts, and health communication experts to intensity research initiations in the area of health literacy among older adult population. The STOFHLA and SIS tools can give a snap shop of older adult health status. Finally, the results of this study suggest clinical importance as health literacy tools could be widely used in clinical settings to identify older adults with low health literacy. Overall health status of the study participants was determined by assessing possible tobacco use, physical exercise and suggestive depression. Our findings suggested that tobacco use, physical exercise and suggested depression among study participants might all represent an important contributing factor to the overall health of older adults. However, the findings did not establish any clear-cut association between overall health status and health literacy.

Recommendations

1. In order to promote healthy aging, the public health infrastructure of the United States need to promote health literacy among older adult population to minimize health disparities.
2. The current and prospective health care professionals should be trained to use simple clear languages that can be comprehensive to the older adults. This could be accomplished through curricular adjustments in colleges that prepares future health care workers.
3. It is also important for these Health Literacy Screening tools to be validated to examine their cultural suitability, as the aging population continues to be diverse in ethnicity. In so doing, culturally acceptable languages could be encouraged among health care professionals.

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APPENDIX

APPENDIX A
QUESTIONNAIRE

Q1 On average, how frequently do you engage in physical exercise of at least 20 minutes

Rarely

1 times per week

2-3 times per week

4-6 times per week

More than 6 times per week

Q2 How would you characterize your current level of health (choose one)

Excellent Health

Above average Health

Average Health

Below average Health

Poor Health

Q3 What is your age?

Under 18

18-24

25-34

35-44

45-54

65 and above

Q4 Which of the following technology products do you own or use regularly?

Cell phone

PDA (e.g. Palm, Pilot, Pocket PC)

Computer at work

Computer at home

Public Access Computer (e.g. café, library, school)

Q5 What is your current employment status?

Full-time

Part-time

Student

Not Employed

Q6 What type of health insurance do you currently have?

PPO

HMO

POS

Medicare/Medicaid

Other

Q7 Which of the following best describes your total household income, before tax?

Less than \$25,000

\$25,000-\$39,999

\$40,000-\$49,999

\$50,000-\$74,999

\$75,000-\$99,999

\$100,000 and more

Q8 Have you ever felt a need to cut down or control your smoking, but had difficulty doing so?

Yes (1)

No (2)

Q9 Do you ever get annoyed or angry with people who criticize your smoking or tell you that you ought to quit smoking?

Yes (1)

No (2)

Q10 Have you ever felt Guilty about your smoking or about something you did while smoking?

Yes (1)

No (2)

Q11 Do you ever smoke with half a hour or waking up (Eye-Opener)?

Yes (1)

No (2)

Q12 Have you ever felt a need to Cut down or control your smoking, but had difficulty doing so?

Yes (1)

No (2)

Q9 Do you ever get Annoyed or angry with people who criticize your smoking or tell you that you ought to quit smoking?

Yes (1)

No (2)

10 Have you ever felt Guilty about your smoking or about something you did while smoking?

Yes (1)

No (2)

11 Do you ever smoke within half an hour of waking up (Eye-opener)?

Yes (1)

No (2)

12 Are you basically satisfied with your life?

Yes (1)

No (2)

13 Have you dropped many of your activities and interests?

Yes (1)

No (2)

14 Do you feel that your life is empty?

Yes (1)

No (2)

15 Do you often get bored?

Yes (1)

No (2)

16 Are you in good spirits most of the time?

Yes (1)

No (2)

17 Are you afraid that something bad is going to happen to you?

Yes (1)

No (2)

18 Do you feel happy most of the time?

Yes (1)

No (2)

19 Do you often feel helpless?

Yes (1)

No (2)

20 Do you prefer to stay at home, rather than going out and doing new things?

Yes (1)

No (2)

21 Do you feel you have more problems with memory than most?

Yes (1)

No (2)

22 Do you think it is wonderful to be alive now?

Yes (1)

No (2)

23 Do you feel pretty worthless the way you are now?

Yes (1)

No (2)

24 Do you feel full of energy?

Yes (1)

No (2)

25 Do you feel that your situation is hopeless?

Yes (1)

No (2)

26 Do you think that most people are better off than you are?

Yes (1)

No (2)

27 How often is each of the following kinds of support available to you if you need it? Circle one on each line.

28 Item 7:SMMSE

Q29 Passage A: X-Ray Preparation

Your doctor has sent you to a _____ X-ray. (1)

- a. stomach (2)
- b. diabetes (3)
- c. stitches (4)
- germs (5)

Q30 You must have an _____ stomach when you come for _____.

- a. asthma (1)
- b. empty (2)
- c. incest (3)
- d. anemia (4)
- a. is (5)
- b. am (6)
- c. if (7)
- d. it (8)

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

- a. takes (1)
- b. view (2)
- c. talk (3)
- d. look (4)

- a. beds (5)
- b. brains (6)
- c. hours (7)
- d. diets (8)

32 THE DAY BEFORE THE X-RAY. For supper have only a _____
snack of fruit, _____ and jelly,

- a. little (1)
- b. broth (2)
- c. attack (3)
- d. nausea (4)
- a. toes (5)
- b. throat (6)
- c. toast (7)
- d. thigh (8)

With coffee or tea

33 After _____, you must not _____ or drink

- a. minute (1)
- b. midnight (2)
- c. during (3)
- d. before, (4)
- a. easy (5)
- b. ate (6)

c. drank (7)

d. eat (8)

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

a. ill (1)

b. all (2)

c. each (3)

d. any (4)

a. are (5)

b. has (6)

c. had (7)

d. was (8)

35 THE DAY OF THE X-RAY. Do not eat _____.

a. appointment. (1)

b. walk-in. (2)

c. breakfast (3)

d. clinic (4)

36 Do not _____, even _____.

a. drive, (1)

b. drink, (2)

c. dress, (3)

d. dose, (4)

a. heart. (5)

- b. breath. (6)
- c. water. (7)
- d. cancer. (8)

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

- a. answers, (1)
- b. exercises, (2)
- c. tracts, (3)
- d. questions, (4)
- a. Department (5)
- b. Sprain (6)
- c. Pharmacy (7)
- d. Toothache (8)

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

- a. hair (1)
- b. salt (2)
- c. see (3)
- d. ache (4)

39 I _____ to provide the county information to _____ any

- a. agree (1)
- b. probe (2)
- c. send (3)

- d. gain (4)
- a. hide (5)
- b. risk (6)
- c. discharge (7)
- d. prove (8)

40 statements given in this _____ and hereby give permission to

- a. emphysema (1)
- b. application (2)
- c. gallbladder (3)
- d. relationship (4)

41 the _____ to get such proof. I _____ that for

- a. inflammation (1)
- b. religion (2)
- c. iron (3)
- d. county (4)
- a. investigates (5)
- b. entertains (6)
- c. understands (7)
- d. establishes (8)

42 Medicaid I must report any _____ in my circumstances

- a. changes (1)
- b. hormones (2)

c. antacids (3)

d. charges (4)

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

a. three (1)

b. one (2)

c. five (3)

d. ten (4)

a. award (5)

b. aware (6)

c. away (7)

d. awaits (8)

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

a. thus (1)

b. this (2)

c. that (3)

d. then (4)

a. marital (5)

b. occupation (6)

c. adult (7)

d. decision (8)

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

a. bright (1)

- b. left (2)
- c. wrong (3)
- d. right (4)
- a. request (5)
- b. refuse (6)
- c. fail (7)
- d. mend (8)

46 hearing by writing or _____ the county where I applied.

- a. counting (1)
- b. reading (2)
- c. calling (3)
- d. smelling (4)

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

- a. wash (1)
- b. want (2)
- c. cover (3)
- d. tape (4)
- a. member, (5)
- b. history, (6)
- c. weight, (7)
- d. seatbelt (8)

48 _____ a different application form. _____, we will use

- a. relaxes (1)
- b. break (2)
- c. inhale (3)
- d. sign (4)
- a. Since, (5)
- b. Whether, (6)
- c. However, (7)
- d. Because, (8)

49 the _____ on this form to determine your _____.

- a. lung (1)
- b. date (2)
- c. meal (3)
- d. pelvic (4)
- a. hypoglycemia (5)
- b. eligibility (6)
- c. osteoporosis (7)
- d. schizophrenia (8)

50 How confident are you in filling out medical forms by yourself? For example, insurance forms, questionnaires, and doctor's office forms. Would you say...?

- Not at all (1)
- A little (2)
- Somewhat (3)
- Quite a bit (4)
- Extremely (5)