Estimating Health Literacy in the Chaldean Community

OAKLAND UNIVERSITY WILLIAM BEAUMONT®

Mark Kamash M4[1], Nataly Salman M3[1], Haidar Hojeij M3[1], Victoria Lucia, Ph.D.[2]

[1]MD candidate, Oakland University William Beaumont School of Medicine

[2]Department of Biomedical Sciences, Oakland University William Beaumont School of Medicine

Introduction

Health literacy is a critical factor influencing health outcomes, yet little research exists on the Chaldean-American population, a distinct Middle Eastern ethnoreligious group primarily residing in Metro Detroit. Despite a long history of immigration to the U.S., Chaldeans are often categorized under broader racial or ethnic groups, limiting the understanding of their unique health challenges[1].

Given the community's unique socioeconomic structure, where business ownership and financial success are often independent of formal education, health literacy patterns may differ from those observed in other immigrant groups[2].

The goal of this study is to estimate health literacy among Chaldean adults in Metro Detroit, analyzing its association with household income and sex.

By assessing these factors, this research seeks to fill a critical gap in health disparities literature, providing insights that can inform targeted healthcare interventions and improve health outcomes for the Chaldean-American community[3].

Aims and Objectives

Aims:

This study aims to assess health literacy within the Chaldean-American community in Metro Detroit, a historically underserved and understudied population. Specifically, it seeks to examine how health literacy varies based on socioeconomic and demographic factors, particularly household income and sex.

Objectives:

- Analyze the relationship between health literacy and household income within the community.
- Evaluate the impact of sex on health literacy levels among Chaldean individuals.
- Identify potential gaps in health literacy that may contribute to health disparities.
- Provide insights for healthcare professionals to develop culturally tailored interventions aimed at improving health literacy and patient outcomes.

Methods

Study Design & Population

This study utilized a cross-sectional survey to assess health literacy in the Chaldean community of Metro Detroit. Adult participants (≥18 years old) who self-identified as "Chaldean" or "Chaldean-American" were recruited from primary care facilities. Participants were required to be proficient in either English or Arabic to complete the survey.

Survey Instrument

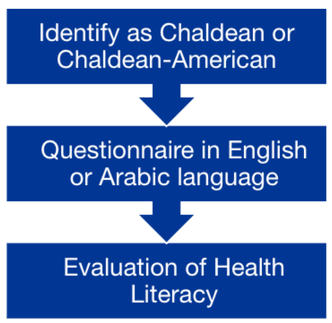
Health literacy was assessed using a modified questionnaire incorporating items from the BRIEF Health Literacy Screening Tool and All Aspects of Health Literacy Scale, which are validated measures recommended by the National Institutes of Health (NIH). Three questions from the BRIEF Health literacy Screening Tool were adopted. The tool was scaled from 3-15, with 3-9 being classified as inadequate health literacy and 10-15 being classified as marginal/adequate health literacy. Twenty questions from the All Aspects of Health Literacy Scale were adopted. The tool was scaled from 20-100, with 20-60 being classified as inadequate health literacy and 61-100 being classified as adequate health literacy. The survey was available in both English and Arabic.

Data Collection

- Surveys were distributed at participating primary care clinics and community centers in Metro Detroit.
- Participants were given the option to complete a hard copy during their visit.
- Surveys were collected anonymously in sealed envelopes and retrieved by research personnel.
- An informational sheet was provided to obtain consent, and participants were compensated with a $10 incentive.

Data Analysis

- Health literacy scores were compared across household income and sex at birth.
- Pearson's Chi-Square Test or Fisher's Exact Test was used for categorical comparisons.



Results

At the conclusion of the project, 45 surveys were completed during the research project. The data was separated based on the respective health screening tool and was analyzed as it related to household income and the individuals' sex.

Modified BRIEF Health Literacy Screening Tool:

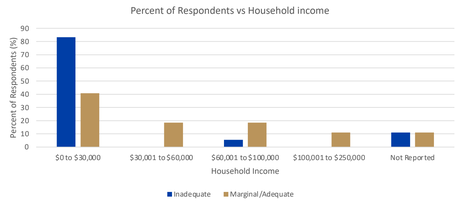


Figure 1. Shows the percent of respondents that were grouped as inadequate(N=18) or Marginal /adequate (N=27) on the modified BRIEF Health Literacy scale as it related to their self reported household income. The Fisher Exact p-value between the two groups was statistically significant at 0.0125.

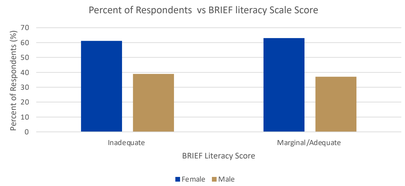


Figure 2. Shows the percent of respondents that were grouped as inadequate(N=18) or Marginal /adequate (N=27) on the modified BRIEF Health Literacy scale as it related to their sex. The Fisher Exact p-value between the two groups was not statistically significant at 1.0000.

Modified All Aspects of Health Literacy Scale:

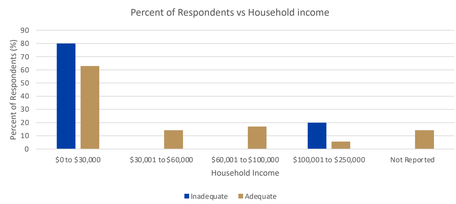


Figure 3. Shows the percent of respondents that were grouped as inadequate(N=5) or Marginal /adequate (N=40) on the modified All Aspects of Health Literacy Scale as it related to their self reported household income. The Fisher Exact p-value between the two groups was not statistically significant at 0.4604.

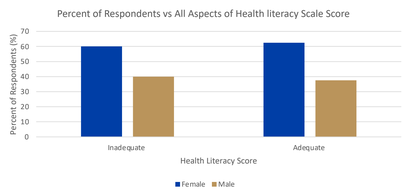


Figure 3. Shows the percent of respondents that were grouped as inadequate(N=5) or Marginal /adequate (N=40) on the modified All Aspects of Health Literacy Scale as it related to their self reported household income. The Fisher Exact p-value between the two groups was not statistically significant at 1.0000.

Conclusions

This study highlights significant disparities in health literacy within the Chaldean-American community in Metro Detroit. The findings indicate that household income plays a crucial role in health literacy, as evidenced by the statistically significant association observed using the modified BRIEF Health Literacy Scale ($p = 0.0125$). However, no significant differences were found when comparing health literacy levels by sex, suggesting that gender may not be a primary determinant in this population. The modified All Aspects of Health Literacy Scale did not reveal statistically significant associations with either household income or sex, indicating potential limitations in its applicability to this community or the need for further investigation.

The discrepancy between the two health screening tools' results highlights the limitations of the project. One limitation is the sample size of 45 may not be an accurate representation of the Chaldean Community. Another limitation is the research tools were modified by choosing select questions from the validated forms to create the surveys.

These results underscore the importance of targeted health education initiatives that consider socioeconomic disparities. Addressing health literacy gaps through culturally tailored interventions can improve health outcomes and healthcare accessibility for Chaldean-Americans.

Future research should include a larger sample size, explore additional factors influencing health literacy, such as educational background, language proficiency, and immigration status, to develop comprehensive strategies for improving health communication within this population.

References

1. Neumayer H, Weir S, Fussman C, McKane, P. Health Risk Behaviors Among Arab Adults Within the State of Michigan: Lansing, MI: Michigan Department of Health and Human Services, Lifecourse Epidemiology and Genomics Division and Health Disparities Reduction and Minority Health Section. Published 2017. https://www.michigan.gov/-/media/Project/Websites/mdhhs/Folder2/Folder52/Folder1/Folder152/ABRFS_Annual_Report_2016.pdf?rev=f39fec46fc92407ca66ea268a6d022f4

2. Sengstock, Mary C. "Chaldean americans." , www.everyculture.com/multi/Bu-Dr/Chaldean-Americans.html.

3. King, A. Poor health literacy: a 'hidden' risk factor. *Nat Rev Cardiol* 7, 473–474 (2010). https://doi.org/10.1038/nrcardio.2010.122

Acknowledgements

Thank you to the Chaldean Community Foundation, Toma & Yaldo Medical Center, and Maple Crest Urgent Care for allowing survey distribution.

Funding provided by: Oakland University School of Medicine