Life After COVID

NAAMA 43rd National Medical Convention

Irvine, California | Sept 3rd - 5th

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NATIONAL ARAB AMERICAN MEDICAL ASSOCIATION
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SEPT 5th 2021 | 01:15 PM - 01:30 PM

NextGen: Research Endeavors

Jawad Bouhamdan B.S.
Medical Student
Class of 2023
NAAMA Next Gen

Zain Jawad B.S.
Medical Student, Wayne State University
School of Medicine
Class of 2023
NAAMA Next Gen

A Systematic Review of Complications from Pediatric Intraosseous Cannulation

Bouhamdan J, Polsinelli G, Akers KG, Paxton JH.
Department of Emergency Medicine, Wayne State University School of Medicine (Detroit, MI)

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The authors of this project do not have any conflicts of interest to disclose.

Introduction

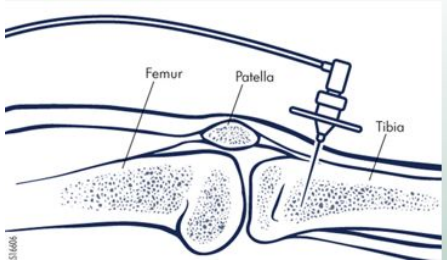

Figure 1. Depiction of the IO needle insertion process in the proximal tibia, the most common pediatric site.. http://patientsafety.pa.gov/ADVISORIES/Pages/201609_114.aspx

According to the American Heart Association (AHA), the incidence of pediatric cardiac arrest is over 20,000 cases yearly, with 7000 cases occurring outside of hospitals in 2015[1]. Intraosseous (IO) infusion is a commonly used method of acquiring vascular access in situations when emergent resuscitation is indicated. The technique involves insertion of a needle into the marrow cavity of a long bone and subsequent infusion of fluid and medications to achieve resuscitation (Figure 1). IO infusion is known to be associated with certain complications. In a 1985 review by Rosetti et al, the incidence of complications associated with pediatric IO infusion use in was described[2]. Since then, IO infusion use has become more widespread. Despite the persistent use of IO infusion in children, there has yet to be a high-quality systematic review of pediatric IO complications published in the literature.

Methods

Search Strategy

Literature searches were conducted in PubMed/MEDLINE, EMBASE, CINAHL Complete, Web of Science, Cochrane Library, and ClinicalTrials.gov from database conception to October 29, 2019. Search terms and phrases related to intraosseous injection ("intraosseous access" OR (intraosseous AND ("vascular access" OR "intravascular access" OR "drug administration") OR "intraosseous injection" OR "intraosseous infusion" OR "intraosseous administration" OR "intraosseous delivery" OR "intraosseous line" OR "intraosseous catheter" OR "intraosseous needle" OR "intraosseous device") and children (infant OR newborn OR baby OR neonatal OR perinatal OR child OR children OR boy OR girl OR kid OR adolescent OR pediatric OR juvenile OR teen OR youth) were combined to identify relevant studies. Keywords, keyword variants, and associated MeSH terms, EMTREE terms, or CINAHL subject headings were used as appropriate. Search results were limited to English-language articles using built-in database filters. The search strategy was designed and implemented by a medical librarian.

Methods

Inclusion/Exclusion Criteria

Inclusion Criteria

- English-Language
- Original data on IO use
- Human pediatric (<18 years old) patients
- Mention of presence or absence of complications identified during care of patient

Exclusion Criteria

- Postmortem, cadaver, or animal studies
- Dentistry, oral-maxillofacial surgery, or sterile operative settings

Methods

Study Screening

After de-duplicating the search results, studies underwent two rounds of screening based on their (1) title and abstract and (2) full text. In each round, studies were screened by two independent reviewers, and conflicts were resolved through discussion and consensus. Both rounds of screening were conducted using Covidence systematic review software (Veritas Health Innovation, Melbourne, Australia).

Data Extraction

Data on article characteristics, patient characteristics, and reported complications were extracted from the included studies by two independent reviewers, and inconsistencies were resolved through discussion and consensus. Complications include, but are not limited to, pain, extravasation, compartment syndrome, skin and soft tissue infections, tissue necrosis, osteomyelitis, fat or marrow embolism, bone fractures, and device failure

Methods

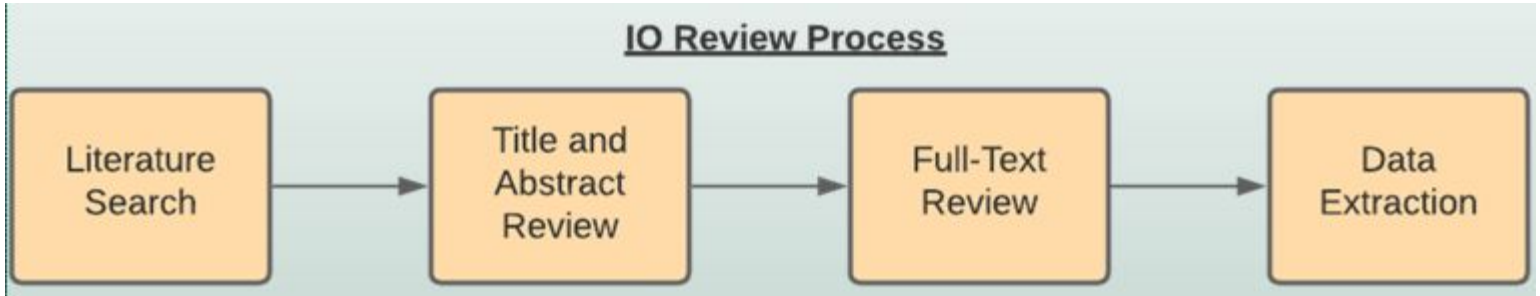

Figure 2. Flowchart depiction of the process implemented for the systematic review. All articles identified during the literature search were uploaded into Covidence, and duplicates were removed. Articles that met the inclusion criteria moved on to the full-text review phase. Articles that met the exclusion criteria did not move on. Articles similarly moved on to the data extraction phase based on the inclusion and exclusion criteria.

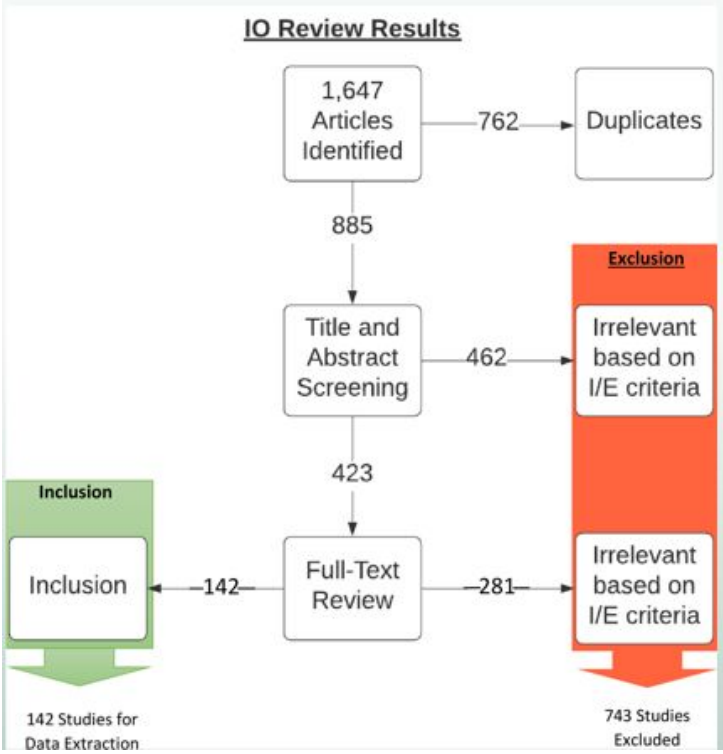

Figure 3. Current progress of the review. Numbers above arrows indicate how many articles fell into the following category. The left side of the image enclosed in the green box and arrow indicates the total number of articles ready for data extraction. The right side of the image enclosed in the red box and arrow indicates the total number of articles that have been excluded. I/E = inclusion/exclusion.

Results

Our initial literature search yielded 1,647 studies which were imported into Covidence. 762 duplicates were automatically removed by Covidence. This left 885 studies for title and abstract screening. 462 studies were excluded based on the inclusion and exclusion criteria. The remaining 423 studies moved on to the full-text review phase, which is currently ongoing. Thus far, 66 additional studies have been excluded, and 102 studies have been identified for data extraction. 528 studies in total have been excluded (Figure 3). The most common reasons for exclusion thus far are lack of original data, no mention of complications, and mixed adult and pediatric data.

Conclusion/References

Conclusion

Based upon our preliminary results, there appear to be adequate published reports in the medical literature to support the completion of this project. We expect this systematic review to contribute to an improved understanding of complications associated with pediatric IO infusion.

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Examination of Mental Health Indicators among Arab Americans in Metro-Detroit

Zain Jawad[1,2,7], Malak Kabalan[1,2,4], Mahdi Saab[1], Marwa Saad[1,2], Wassim El-Sayed[1,7], R. Alexander Blackwood MD, PhD[2,5,6]

[1]University of Michigan-Dearborn, [2]The Arab American Health initiative, [3]Wayne State University, [4]Michigan State University [5]Office for Health Equity and Inclusion [6]Michigan Medicine Department of Pediatric Infectious Diseases, [7]Wayne State University-School of Medicine

Conflicts of Interest

- The authors of this project do not have any conflicts of interest to disclose.

Introduction and Objective

- Mental health is stigmatized in the Arab American (AA) community.
- There is scarce literature available on mental health indicators relating to the Arab American population. It is crucial to fill this gap in research to allow healthcare providers to better understand Arab Americans' reporting of mental health symptoms.
- Depression and loneliness/feelings of social isolation have been shown in prior literature to have a significant positive association for worsening mental health and suicidal ideations[5].

To examine the correlation between depression and loneliness as indications of mental health especially pertaining to the Arab American population.

Secondary Objectives

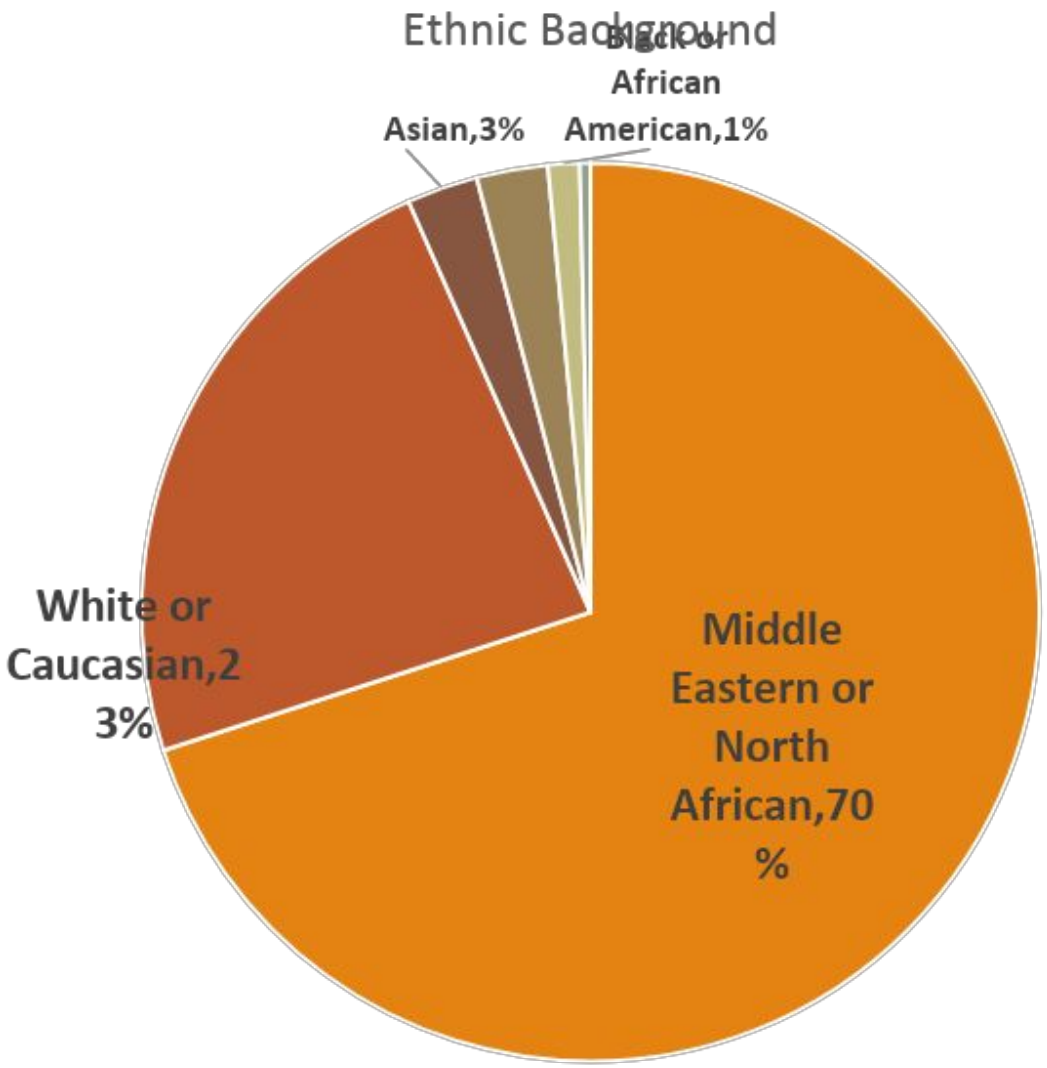
- Examine the role of:
  - Religiosity
  - Acculturation, defined as the "process of social, psychological, and cultural change that stems from the balancing of two cultures while adapting to the prevailing culture of the society"[3]
    - Do immigrants face more significant stress to their mental health due to stressors of acculturation?

Methods

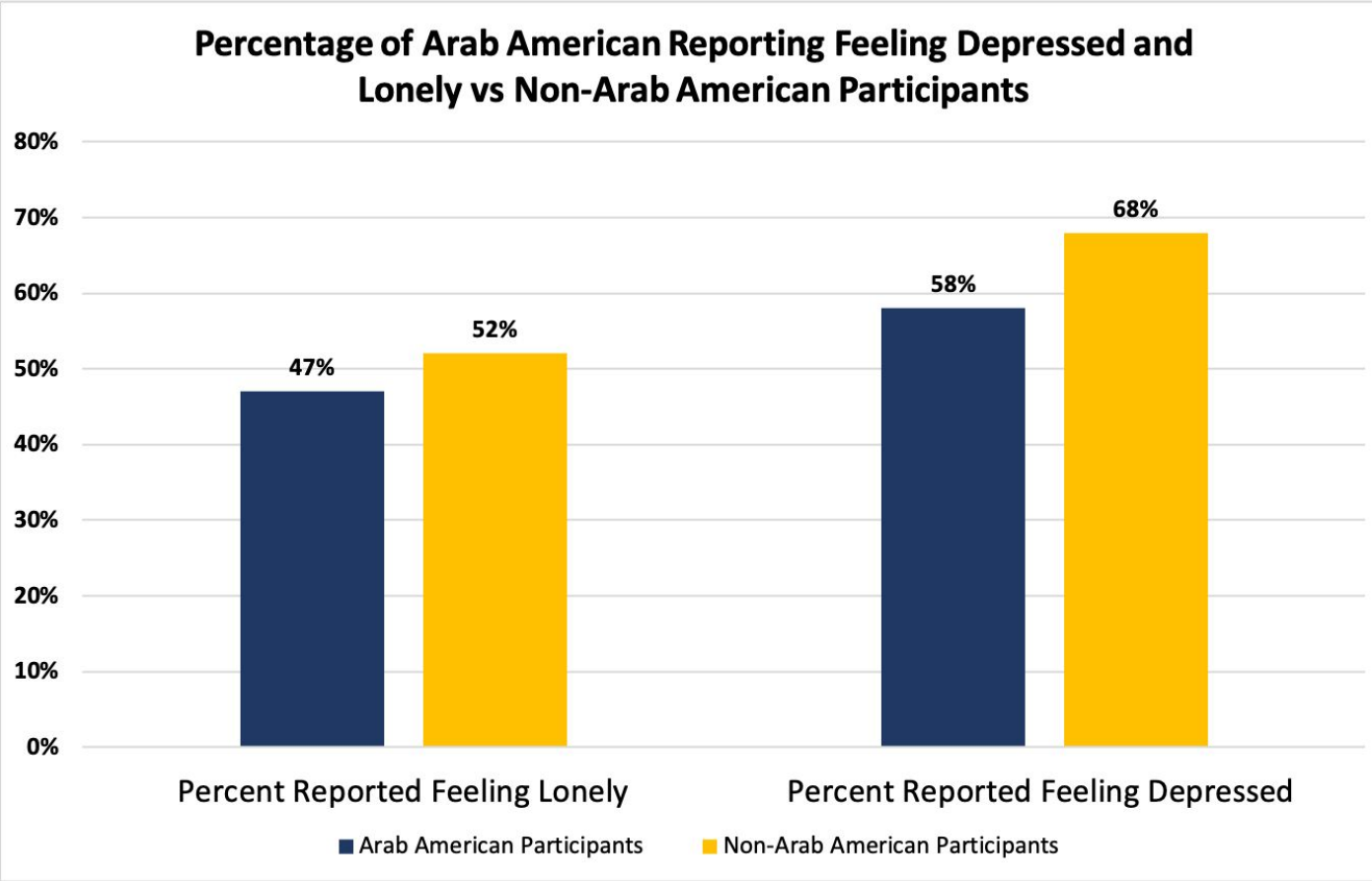
- An anonymous, digital survey composed of demographic questions and two scales: The DeJong Scale for Emotional and Social Loneliness questionnaire and The Center for Epidemiologic Studies Depression Scale (CES-D Scale), was digitally distributed
- The De Jong Scale for Emotional and Social Loneliness questionnaire was used as an indicator of overall loneliness/feeling of social isolation
- The CES-D Scale measures depressive symptoms
- Data was collected from 255 adults ages 18 and up
- Data collection was made possible through the help of the Arab American Health Initiative, University of Michigan, and various social media outlets
- The University of Michigan IRB granted exemption status for this study
- Data collected ended at the start of the COVID-19 Pandemic, which prompts new questions

Results: Demographics

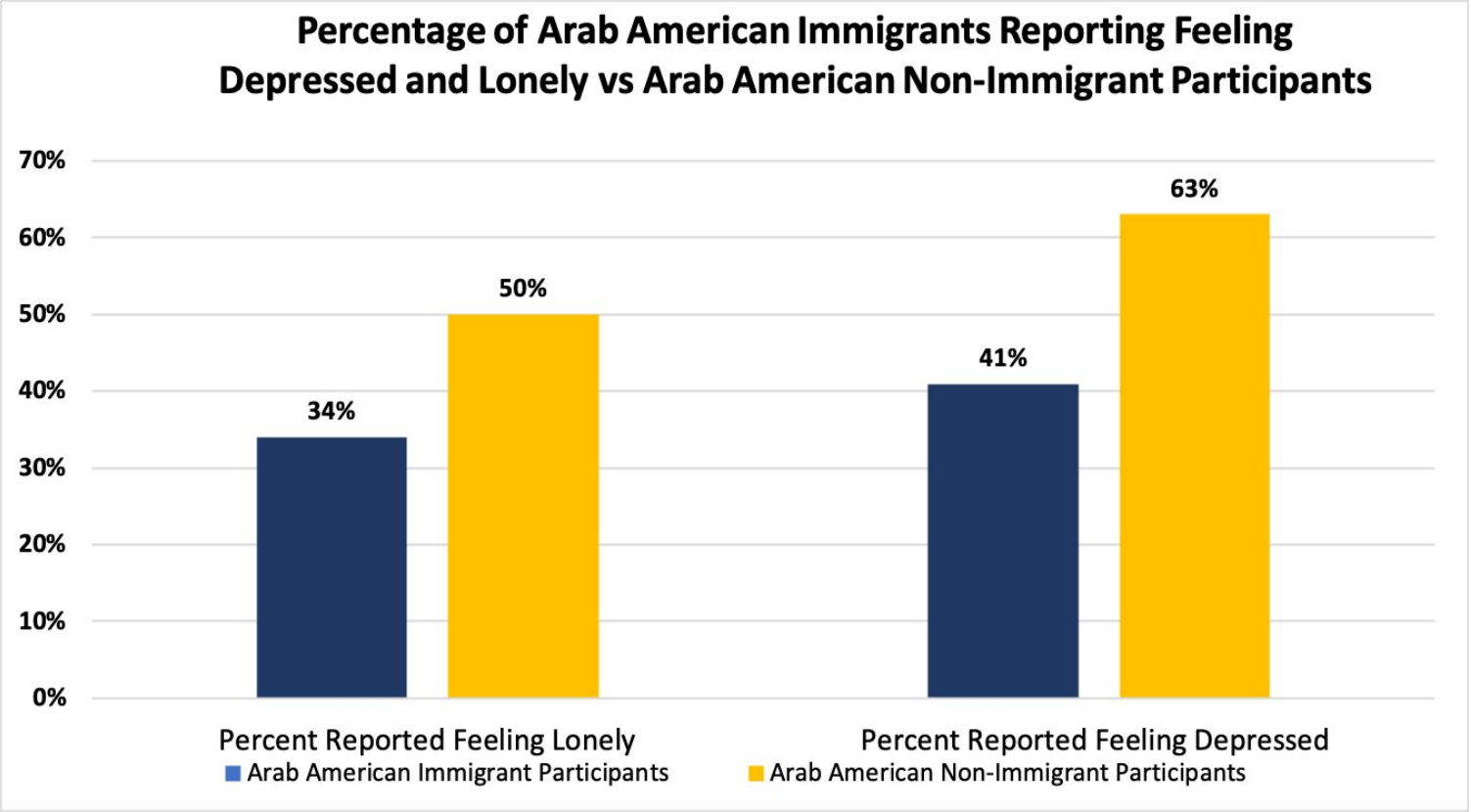
- Ages of respondents ranged from 18 to 61, with 80% of respondents ranging from ages 18-30
- Ethnic background of respondents included 70% MENA and 30% Non-MENA
- Of MENA respondents, 23% were immigrants and 77% born and raised in the US



Results: Arab American compared to Non-Arab American respondents

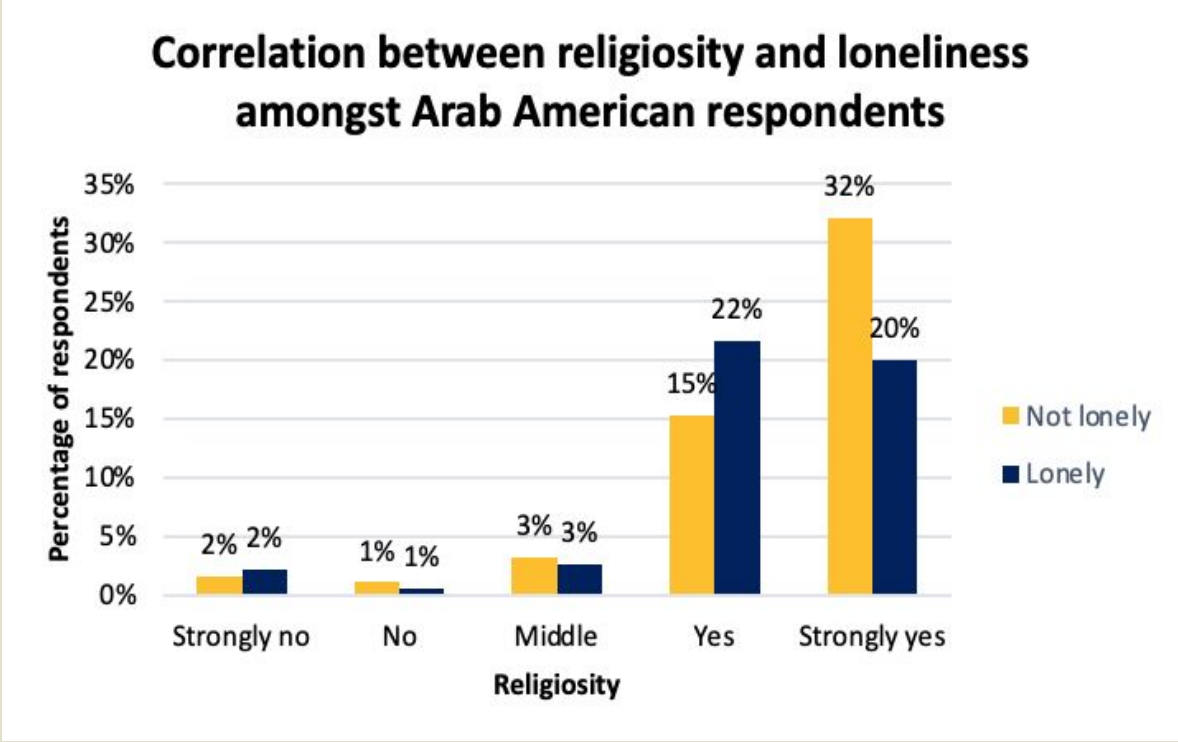


Results: Arab American immigrants compared to Arab American non-immigrants



Results: Religiosity and Loneliness

- Moderately religious Arab Americans tended to display a higher rate of loneliness/feeling of social isolation than those with stronger religious identification



Discussion

- Among Arab Americans, primarily the youth ages 18-30
  - Depression was more prevalent than loneliness/feelings of social isolation
  - Arab American immigrants demonstrated lower rates of mental health indicators
  - Stronger religiosity compared with mild religiosity shows lower rates of loneliness/feelings of social isolation
  - Overall, Arab American respondents showed lower rates of mental health indicators than non-Arab American respondents

Impact and Future Direction

- Utilize the findings gathered from this research to facilitate a better understanding of mental health indicators for the AA community in the reporting and treatment of mental health
- This data may serve as a resource for healthcare professionals to better identify mental health indicators among their AA patients

Given the stigma associated with mental health, we hope to provide a basis for initiating new studies for Arab American mental health to improve interventions

Limitations

- COVID-19 Pandemic
  - Given the stressors associated with the pandemic, the world we live in today is different than 18 months ago when the pandemic began
  - Data collection ended at the onset of the pandemic, and results afterward were removed
  - Prompt for novel follow-up studies
- Age of respondents limited discussion to ages 18-30
- Means of delivery of the study was primarily electronic which may limit being able to reach lower income Arab Americans, particularly immigrant and refugee populations

Acknowledgements

- Our mentor, Dr. R Alexander Blackwood from the University of Michigan Medical School for his mentorship and support
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