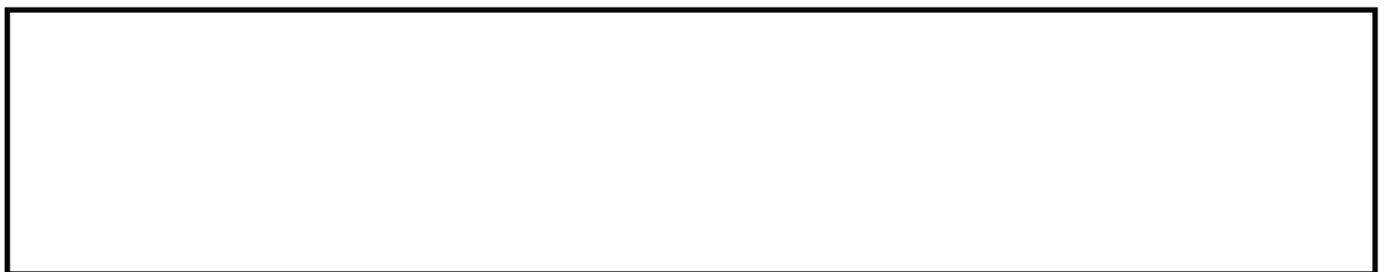


AL-ADAWI, R., PRABHU, K.S., RYAN, C., ABDELAZIZ, H., EL EDRISI, M. and IBRAHIM, M.I.M. 2021. The incidence of metabolic syndrome amongst Qatar migrants 24 month post-migration: a prospective longitudinal observational cohort study. Presented at 49th ESCP (European Society of Clinical Pharmacy) virtual symposium on clinical pharmacy (ESCP 2021): clinical pharmacy, working collaboratively in mental health care, 19-21 October 2021, [virtual conference].

The incidence of metabolic syndrome amongst Qatar migrants 24 month post-migration: a prospective longitudinal observational cohort study.

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2021



THE INCIDENCE OF METABOLIC SYNDROME AMONGST QATAR MIGRANTS 24 MONTHS POST-MIGRATION: A PROSPECTIVE LONGITUDINAL OBSERVATIONAL COHORT STUDY.

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Background and objective:

Evidence indicates that migration to Western countries is associated with increased metabolic syndrome (MetS) risk. There is, however, a scarcity of data about MetS incidence in migrants to Middle Eastern countries. This study aimed to investigate the relationship between migration and the incidence of MetS following a 24-months residency in Qatar.

Methods:

Following the necessary ethics approvals, migrants to Qatar aged 18 – 65 years were invited to participate. Baseline screening for MetS parameters included glycated haemoglobin, triglycerides, high-density lipoproteincholesterol, blood pressure, and waist circumference. Migrants with normal metabolic parameters were invited for rescreening 24-months post-migration and, parameters repeated. Those with abnormal metabolic parameters were counselled or referred for medical review and excluded from follow up.

Main outcome:

The incidence of metabolic syndrome amongst initially metabolic syndrome-free migrants, 24 months post migration.
The determinants of MetS and MetS elements among Qatar migrants, 24 months post migration.

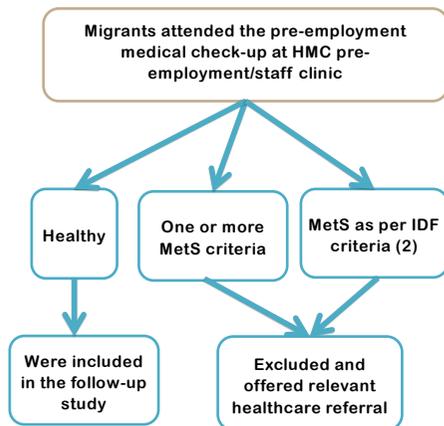


Figure 1: Flow diagram of participant recruitment during period one

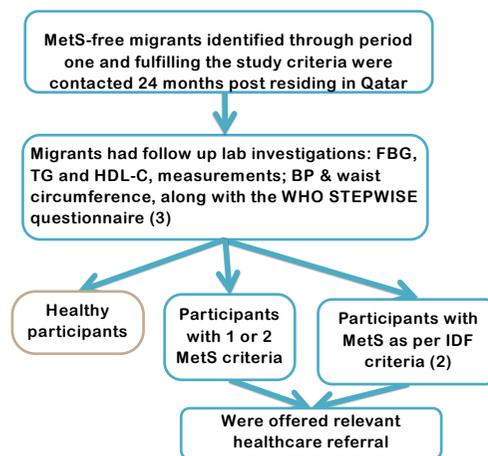


Figure 2 : Flow diagram of participant follow up during period two

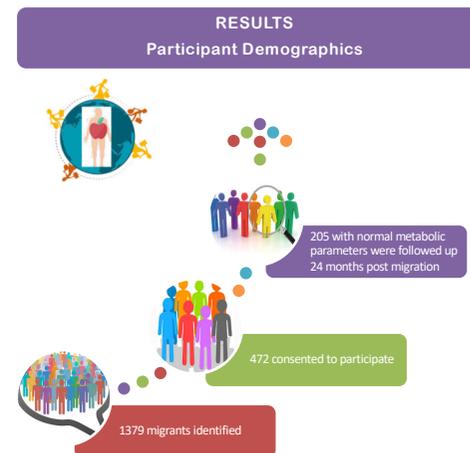


Figure 3 – The potential impact of the project

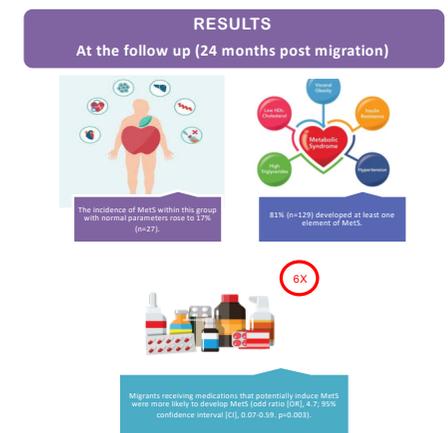


Figure 4– The recruitment process

Conclusion

Migration to Qatar was associated with the development of MetS after 24 months of migration. Further studies are required to determine the risk factors and the predictors of MetS amongst migrants to Qatar.

Given the cultural similarities and importance of migration in Qatar and other Middle-Eastern countries; it is likely that the findings will be applicable beyond Qatar.

Disclosure: None of the authors of this study have to disclose any possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this study.

Correspondence to: Rahmed4@hamad.qa

References:

- 1- Bel-Air FD. Demography, Migration, and Labour Market in Qatar. 2014; Available at: https://cadmus.eui.eu/bitstream/handle/1814/32431/GLMM_ExpNote_08-2014.pdf?sequence=1. Accessed 26 Aug, 2019.
- 2- Alberti K, Eckel R, Grundy S, Zimmet P, Cleeman J, Donato K. Harmonizing the metabolic syndrome. A joint interim statement of the IDF Task Force on Epidemiology and Prevention; NHL and Blood Institute; AHA; WHF; IAS; and IA for the Study of Obesity. *Circulation*. 2009; 120(16):1640-1645.
- 3- World Health Organization. STEPS instruments for NCD risk factors (core and expanded version 1.4): the WHO STEPwise approach to Surveillance of non communicable diseases (STEPS). 2001.

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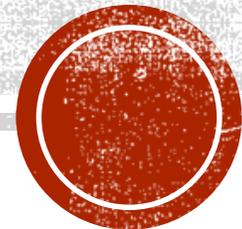
THE EFFECT OF MIGRATION ON THE INCIDENCE OF NEW-ONSET METABOLIC SYNDROME IN MIGRANTS TO QATAR

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ESCP21SY-1057

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■ **Affiliations:**

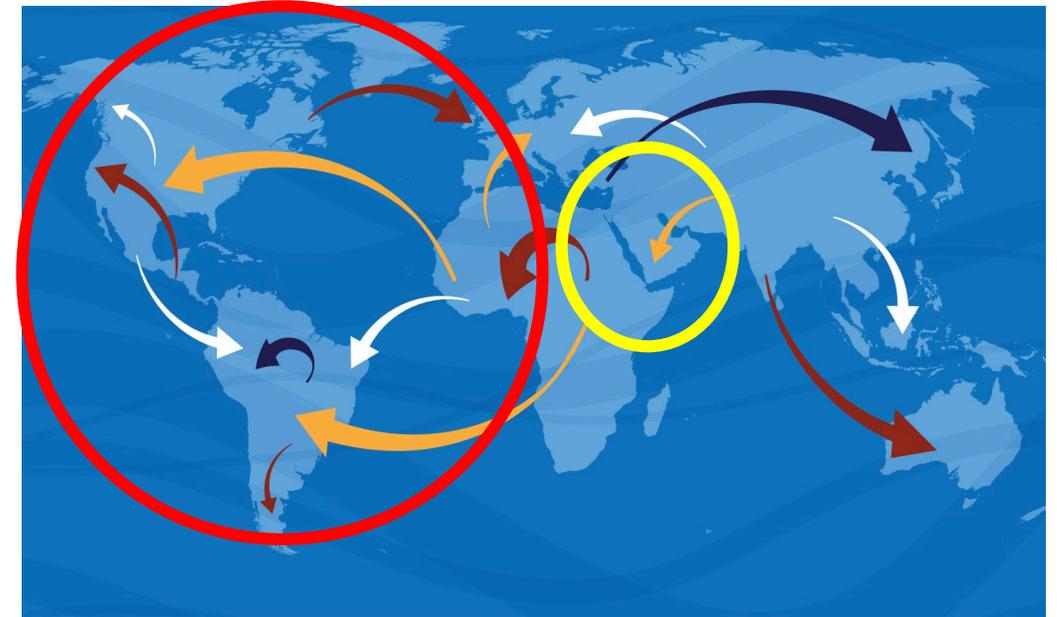
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BACKGROUND

- There is substantial evidence that migration to Western countries is associated with increased risk of Metabolic syndrome (MetS)*
- However, there is paucity of data about incidence of new-onset MetS in migrants from different countries to Qatar and the Middle East.
- As a result, an important health problem is overlooked, and prevention measures are absent.



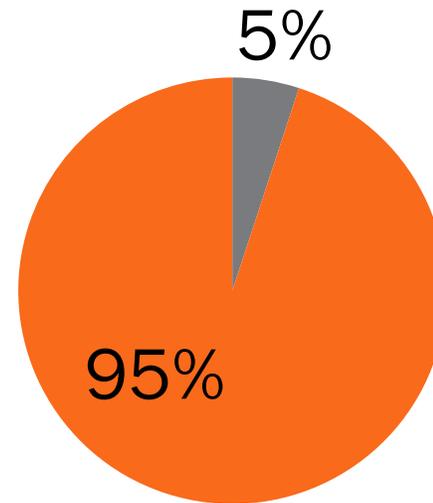
* (1) Bharmal N, Kaplan RM, Shapiro MF, Mangione CM, Kagawa-Singer M, Wong MD, et al. The association of duration of residence in the United States with cardiovascular disease risk factors among South Asian immigrants. *Journal of Immigrant and Minority Health*. 2015; 17(3):781-790.





Nationals to migrants' proportion in the workforce in Qatar

■ Nationals ■ Migrants



- (2) BEL-AIR FD. *DEMOGRAPHY, MIGRATION, AND LABOUR MARKET IN QATAR*. [HOMEPAGE ON THE INTERNET]. EUROPE: GULF RESEARCH CENTER; 2014 CITED 2019 26 AUG]. AVAILABLE FROM: [HTTPS://CADMUS.EUI.EU/BITSTREAM/HANDLE/1814/32431/GLMM_EXPNOTE_08-2014.PDF?SEQUENCE=1](https://cadmus.eui.eu/bitstream/handle/1814/32431/GLMM_EXPNOTE_08-2014.pdf?sequence=1).



ABOUT METABOLIC SYNDROME

Metabolic Syndrome X Infographic



METABOLIC SYNDROME X XpertDox Clinical, Education, Research



The infographic is structured as a row of ten house-shaped panels. The first panel on the left is taller and contains a list of characteristics. The remaining nine panels are arranged in two rows of five. Each panel features an icon at the top and text below. The icons include: a person with a large belly, a calendar showing 1977, a world map with red dots, a person's head and shoulders, a person's torso with a red heart, a tree with people silhouettes, a person bowing, a cross-section of an artery with plaque, a syringe, and a plate of fruit.

Characterized by combination of

- > Increased blood pressure,
- > High blood sugar levels,
- > Excess fat around the waist,
- > High triglyceride levels,
- > Low levels of good cholesterol

1977

The term was first used by Dr Herman Haller in 1977

Affects 20 – 25% of the world's adult population

High prevalence in African Americans

Recognized as an emerging epidemic in many countries

Risk factors include family history, poor diet & inadequate physical exercise

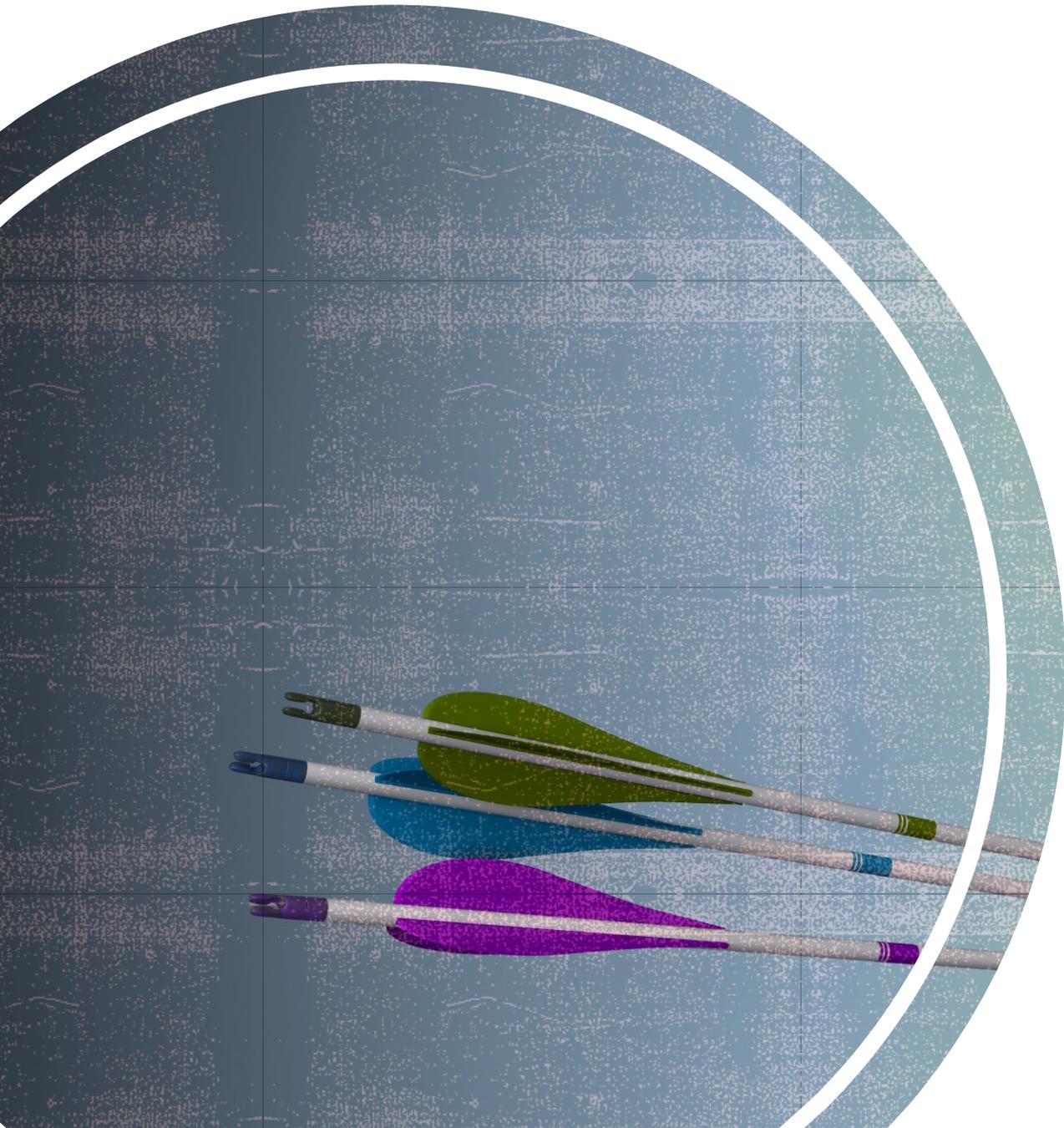
Predisposed by anger, anxiety or depression

Doubles the risk of coronary artery disease

Diagnosed by Physical Examination & blood Tests

Primary treatment is lifestyle changes including diet and exercise





AIM

- The aim of this study was to investigate the relationship between migration and the incidence of MetS following 24-months residency in Qatar and identify possible MetS determinants.



METHOD:

THIS WAS A PROSPECTIVE LONGITUDINAL OBSERVATIONAL STUDY.



Baseline screening

- Migrants aged 18 – 65 years employed at HMC were invited to consent and participate.



Following the consent

- Baseline screening for MetS was conducted
- Parameters included glycated hemoglobin (HbA1c), triglycerides (TG), high-density lipoprotein-cholesterol (HDL-C), blood pressure (BP) and waist circumference (WC).





**A group of HMC
employees**

**Recently migrated to
Qatar**

**Have been living in
Qatar for less than 2
months**



Baseline 2017

- Normal metabolic parameters
- IDF 2009



Follow-up 2019

- Repeat metabolic parameters
- WHO STEPwise questionnaire

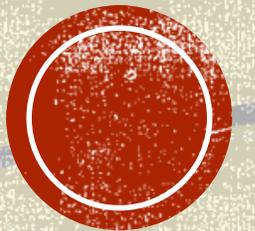


Throughout the study, migrants with metabolic abnormalities were referred to physicians for further management.





RESULTS





205 with normal metabolic parameters were followed up 24 months post migration



472 consented to participate



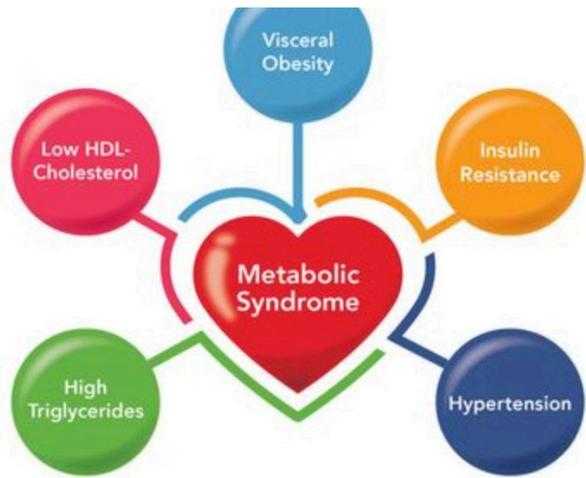
1084 migrants contacted



At the follow up (24 months post migration)



The incidence of MetS within this group with normal parameters rose to 17% (n=27).



81% (n=129) developed at least one element of MetS.



Migrants receiving medications that potentially induce MetS were more likely to develop MetS (Adjusted OR 6.3, 95% CI; 2.27-17.73, p<0.001).





CONCLUSION

Migrants to Qatar, were at increased MetS incidence during 24-months of migration

Administration of medications that can induce MetS increased the risk of MetS amongst migrants by more than six-fold.

This study will guide policymakers within the Ministry of Public Health and HMC in implementing preventative measures to combat MetS among migrants and develop strategies for early warning systems.



REFERENCES

- (1) Bharmal N, Kaplan RM, Shapiro MF, Mangione CM, Kagawa-Singer M, Wong MD, et al. The association of duration of residence in the United States with cardiovascular disease risk factors among South Asian immigrants. *Journal of Immigrant and Minority Health*. 2015; 17(3):781-790.
- (2) Alberti KG, Eckel RH, Grundy SM, Zimmet PZ, Cleeman JI, Donato KA, et al. Harmonizing the metabolic syndrome: a joint interim statement of the International Diabetes Federation Task Force on Epidemiology and Prevention; National Heart, Lung, and Blood Institute; American Heart Association; World Heart Federation; International Atherosclerosis Society; and International Association for the Study of Obesity. *Circulation*. 2009; 120(16):1640-1645.



The poster features a vibrant orange background. At the top, there is a small, faded image of a classical building facade. Below it, the text 'ESCP Symposium 2021' is prominently displayed in white. Underneath, the dates '19 – 21 October | online' are written in a smaller white font. The bottom half of the poster is dominated by a large, detailed blue-toned relief sculpture of a historical battle scene, showing soldiers on horseback and on foot in a dynamic, chaotic arrangement.

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THANK YOU ...

Q&A
