COVID-19 Update

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Visceral adiposity elevates the risk of critical condition in COVID-19: A systematic review and meta-analysis

- **Objective:**
  - Evaluate if visceral adiposity may be a more accurate measure to stratify patients who develop a critical condition in COVID 19 as compared to BMI.

- **Methods:**
  - Meta-analysis of studies published until 17th November 2020 and measuring:
    - Pooled mean difference (standardized mean difference; SMD) of visceral fat area (VFA; cm2) between patients in intensive care unit (ICU) and general ward, and
    - Pooled mean difference, SMD patients with and without IMV requirement.

Obesity, December 2020. doi=10.1002%2Foby.23096

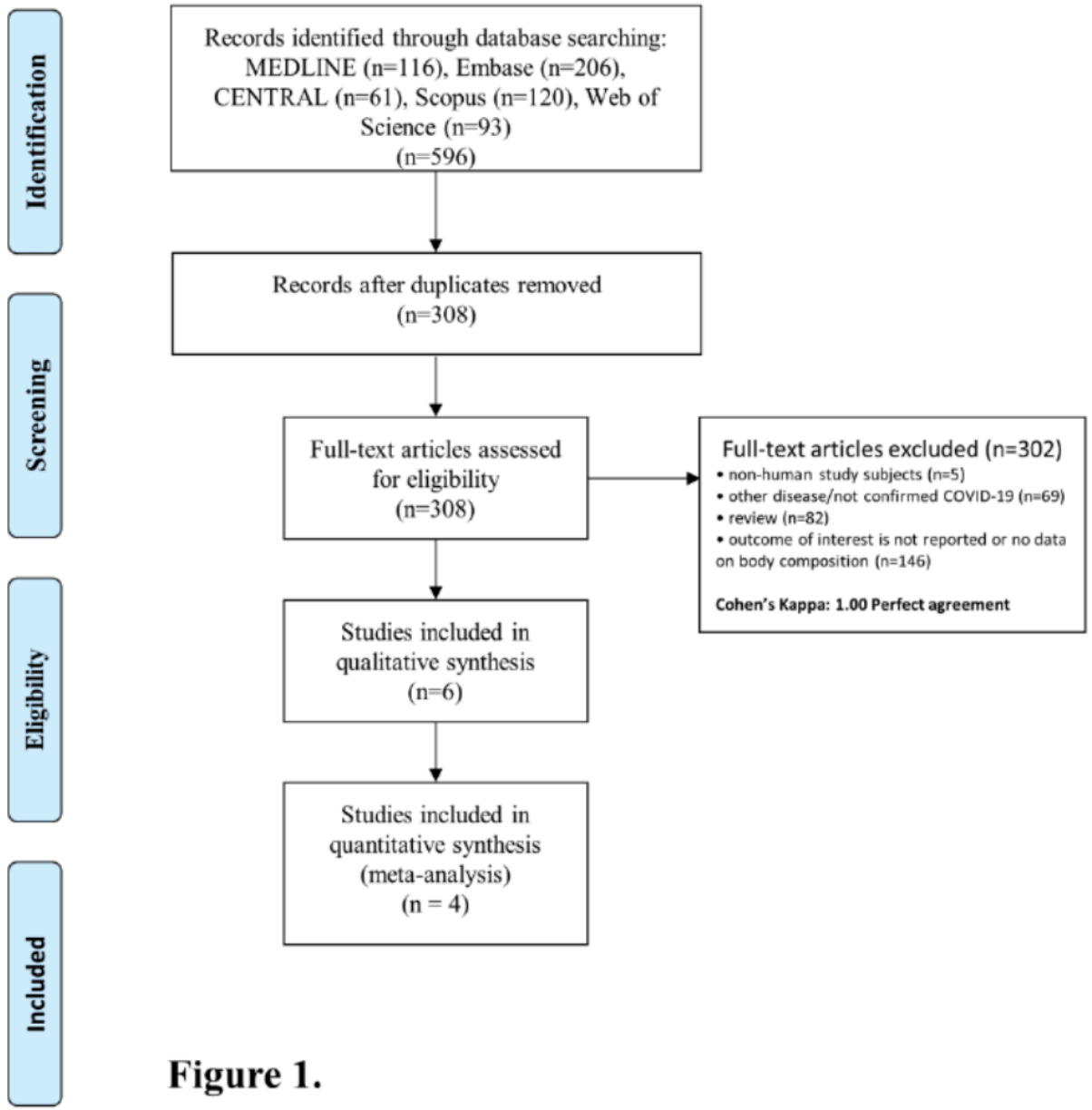

Figure 1.

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- **Results:**
  - Patients **requiring intensive care** had higher VFA values (SMD=0.46, 95% CI: 0.20, 0.71,

    p< 0.001 **compared to patients on the general ward**.
  - Patients **requiring IMV** had higher VFA values (SMD=0.38, 95% CI: 0.05, 0.71, p=0.026) **compared to patients without IMV**

- **Conclusion:**
  - VFA values were significantly higher in patients with critical condition.
  - Abdominal adiposity seems to be a risk factor in COVID-19, and patients with central obesity might need special attention

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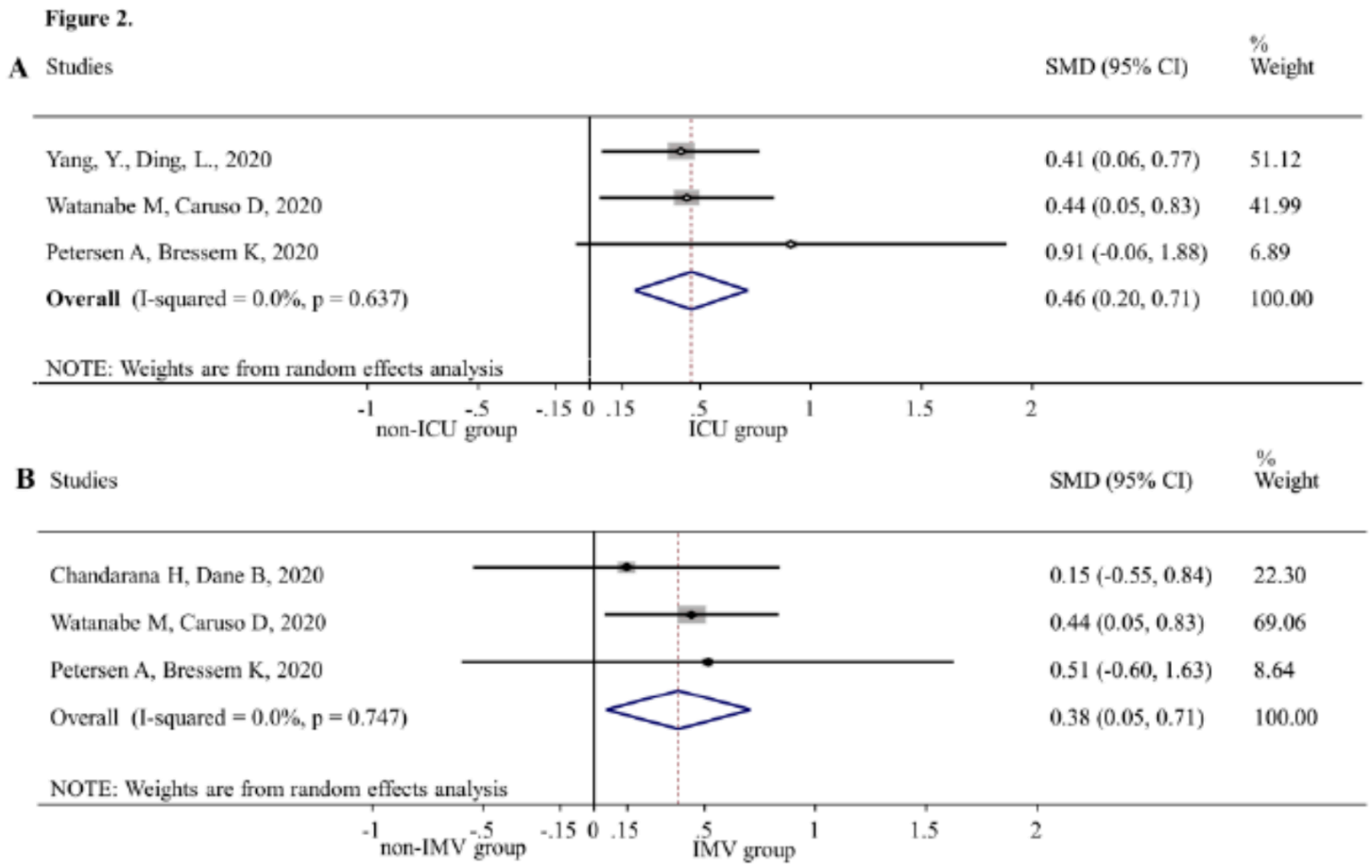

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Morbidity and Mortality Weekly Report (*MMWR*)

CDC

Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 Infection at Two Community-Based Testing Sites — Pima County, Arizona, November 3–17, 2020

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Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 Infection at Two Community-Based Testing Sites — Pima County, Arizona, November 3–17, 2020

Summary

What is already known about this topic?

The BinaxNOW rapid antigen test received Emergency Use Authorization by the Food and Drug Administration for testing specimens from symptomatic persons; performance among asymptomatic persons is not well characterized.

What is added by this report?

Sensitivity of the BinaxNOW antigen test, compared with polymerase chain reaction testing, was lower when used to test specimens from asymptomatic (35.8%) than from symptomatic (64.2%) persons, but specificity was high. Sensitivity was higher for culture-positive specimens (92.6% and 78.6% for those from symptomatic and asymptomatic persons, respectively); however, some antigen test-negative specimens had culturable virus.

What are the implications for public health practice?

The high specificity and rapid BinaxNOW antigen test turnaround time facilitate earlier isolation of infectious persons. Antigen tests can be an important tool in an overall community testing strategy to reduce transmission.

Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 : Study Limitations

1. Anterior nasal swabs were used for BinaxNOW antigen testing, but NP swabs were used for real-time RT-PCR testing, which might have contributed to increased detection for the real-time RT-PCR assay
2. Participants might have inadvertently reported common nonspecific symptoms as COVID-19–compatible symptoms.
3. This investigation evaluated the BinaxNOW antigen test, and results presented here cannot be generalized to other FDA-authorized SARS-CoV-2 antigen tests.
4. The BinaxNOW antigen test characteristics might be different depending on whether an individual had previously tested positive.
5. Many factors might limit the ability to culture virus from a specimen, and the inability to detect culturable virus should not be interpreted to mean that a person is not infectious.

Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2

- **Rapid antigen tests can be an important tool for screening** because of their quick turnaround time, lower requirement for resources, high specificity, and high PPV in settings of high pretest probability
- Faster time from testing to results reporting **can speed isolation of infectious persons**, particularly important in communities with high levels of transmission.
- Although the sensitivity of the BinaxNOW antigen test to detect infection was lower compared with real-time RT-PCR, it was relatively high among specimens with positive viral culture, which **might reflect better performance for detecting infection** in a person with infectious virus present.
- Community testing strategies focused on preventing transmission using antigen testing should consider **serial testing which might improve test sensitivity** in detecting infection .

Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 :

- When the pretest probability for receiving positive SARS-CoV-2 test results is elevated a negative antigen test result should be confirmed by NAAT.

- Asymptomatic persons who receive a positive BinaxNOW antigen test in a setting with a high risk for adverse consequences resulting from false-positive results should be confirmed with NAAT

- Despite their reduced sensitivity to detect infection compared with real-time RT-PCR, antigen tests might be particularly useful when real-time RT-PCR tests are not readily available or have prolonged turnaround times.

Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2

- Persons who know their positive test result within 15–30 minutes can isolate sooner, and contact tracing can be initiated sooner and be more effective than if a test result is returned days later.

- Serial antigen testing can improve detection, but consideration should be given to the logistical and personnel resources needed.

- All persons receiving negative test results (NAAT or antigen) should be counseled that wearing a mask, avoiding close contact with persons outside their household, and washing hands frequently remain critical to preventing the spread of COVID-19.

Q&A

- *Was wondering a little bit about recommendations to hold medication prior/after vaccination. Ex. like TNF-alpha for live attenuated vaccines. Since he didn't address anything to that affect and I can't find anything in the vaccine paperwork or on CDC, I am assuming there is no recommendation to hold, but to just continue immunosuppressive medication per regular dosing.*

- *On a completely different note, would a patient with complete IgA deficiency be treated any differently when administering COVID-19 vaccine?*

- *We are screening the community with a PCR test at least every other week and are vaccinating as fast as we safely can, eventually offering the vaccine to everyone we are screening. At what point or percentage would you recommend we can stop the mass screening and move to testing only symptomatic people?*

TABLE 8-1. Vaccination of persons with primary and secondary immunodeficiencies

Primary	Specific immunodeficiency	Contraindicated vaccines(a)	Risk-specific recommended vaccines(a)	Effectiveness and comments
B-lymphocyte (humoral)	Severe antibody deficiencies (e.g., X-linked agammaglobulinemia and common variable immunodeficiency)	OPV(b) Smallpox(c) LAIV BCG Ty21a (live typhoid) Yellow fever MMR MMRV	Pneumococcal Hib (children 12-59 months of age)(d)	The effectiveness of any vaccine is uncertain if it depends only on the humoral response (e.g., PPSV23or MPSV4) IGIV interferes with the immune response to measles vaccine and possibly varicella vaccine
	Less severe antibody deficiencies (e.g., selective IgA deficiency and IgG subclass deficiency)	OPV(b) BCG Yellow fever(e) Other live vaccines appear to be safe	Pneumococcal Hib (children 12-59 months of age)(d)	All vaccines likely effective; immune response might be attenuated

General Best Practice Guidelines for Immunization: Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP). Accessed January 18,2021