

THE EFFECT OF DAY-LONG MASK WEARING ON NON-INVASIVE BREAK-UP TIME

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- NO CONFLICT OF INTEREST

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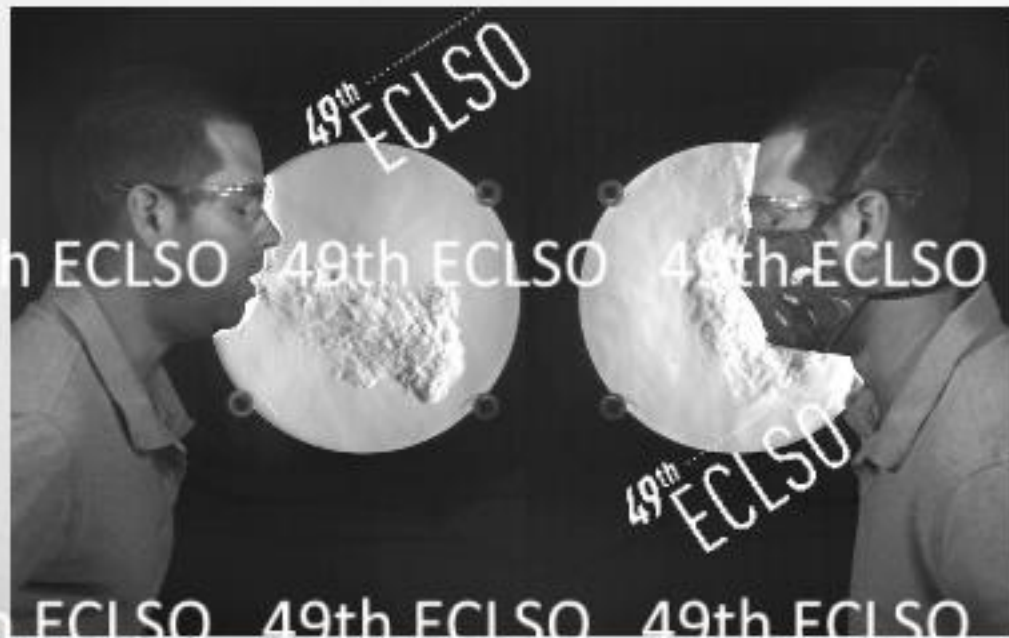
COVID-19 & MASK WEARING



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MASK ASSOCIATED DRY EYE



49th ECLSO

49th ECLSO

AIM



TO INVESTIGATE

THE EFFECT OF DAY-LONG FACE **MASK WEARING**

ON NON-INVASIVE **TEAR BREAK-UP TIME**

METHODS- PARTICIPANTS

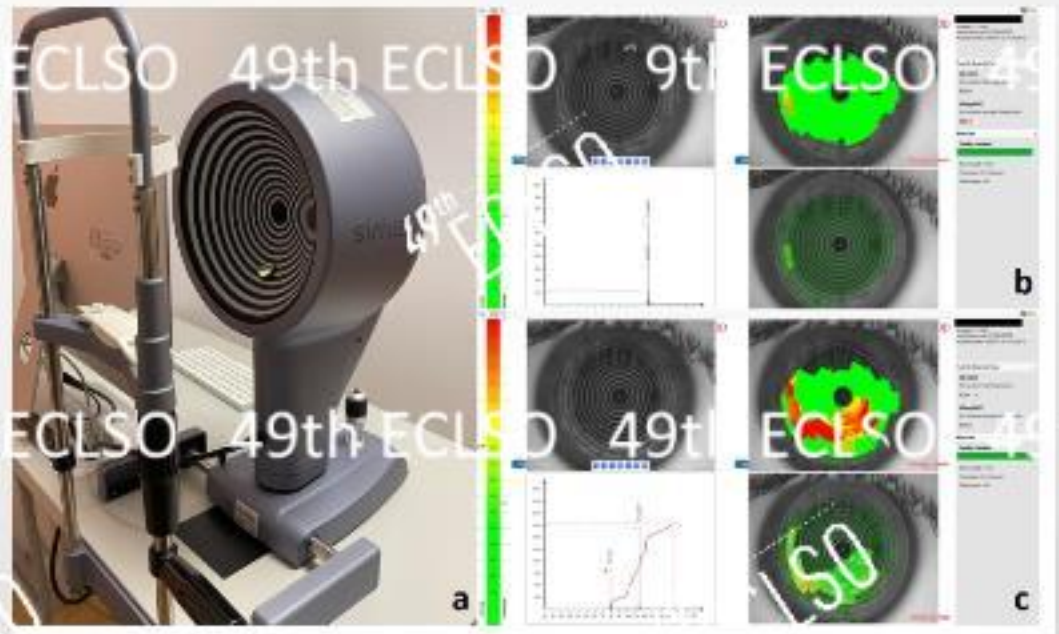
- HEALTH CARE STAFF (WEARING FACE MASKS DURING WORK SCHEDULE)

Exclusion Criteria

- OCULAR SURFACE DISEASE OR IRREGULARITY,
- ACUTE CORNEAL OR CONJUNCTIVAL INFECTION,
- GLAUCOMA,
- THYROID EYE DISEASE,
- HISTORY OF OCULAR TRAUMA OR OCULAR SURGERY,
- CONTACT LENS WEARERS,
- TOPICAL MEDICATION,
- SMOKING

METHODS

- OSDI QUESTIONNAIRE
- NI-BUT MEASUREMENT
 - 08:30-09:00 H
 - 16:30-17:00 H
- ACCORDING TO NI-BUT
 - GROUP-1 (<17 S- MEASURABLE RANGE)
 - GROUP-2 (>17 S- UNMEASURABLE RANGE (NOT INCLUDED IN THE CORRELATION ANALYSIS))
- NI-BUT CHANGES vs AGE / GENDER / OSDI



RESULTS- DEMOGRAPHIC DATA, NI-BUT, OSDI

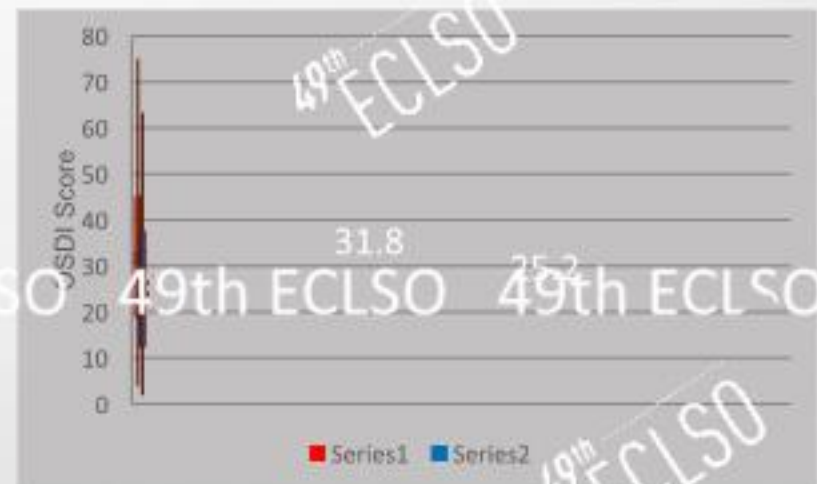
Age (Mean ± SD)	30.9 ± 8.5
Gender	
Female	38 (51.3%)
Male	36 (48.7%)
NI-BUT > 17 s (Group-1)	23 (44.6%)
NI-BUT < 17 s (Group-2)	41 (55.4%)
Ocular surface according to OSDI	
Normal	13 (17.6%)
Mild dry eye	18 (24.3%)
Moderate dry eye	13 (17.6%)
Severe dry eye	5 (6.8%)

RESULTS- OSDI



The mean OSDI score
Group-1: 28.6 ± 17.1
Group-2: 26.4 ± 16.2

$p=0,32$



The mean OSDI score
Females: 31.8 ± 17.4
Males : 25.2 ± 16.2

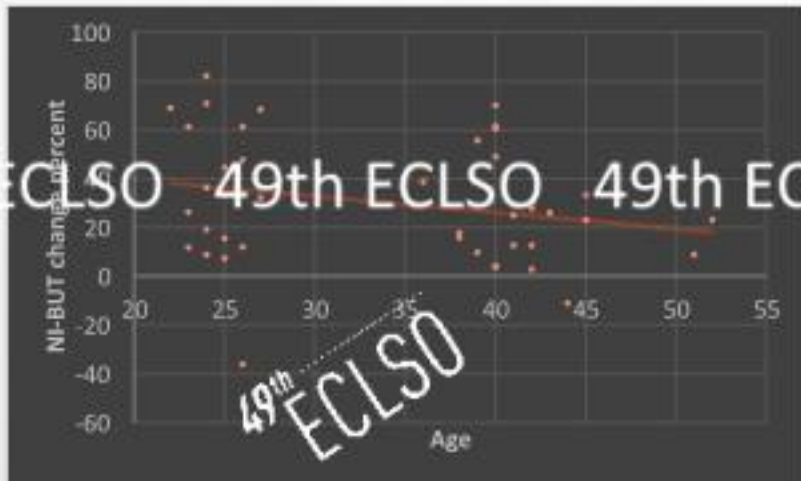
$p=0,09$

RESULTS -- NI-BUT CHANGE

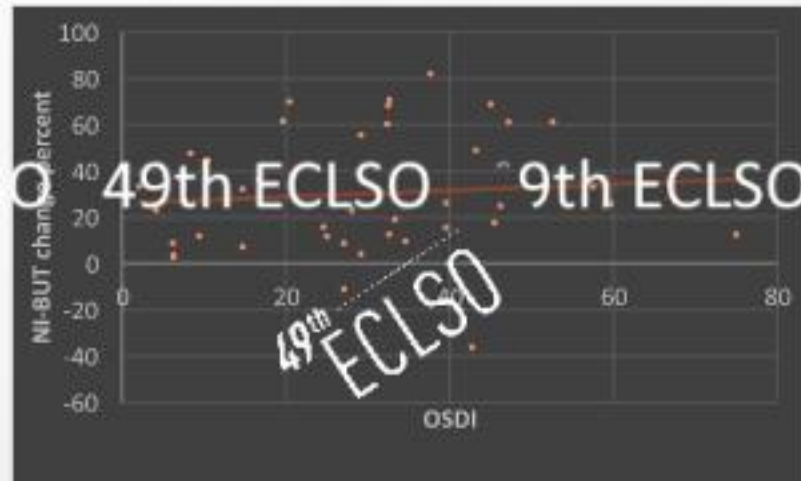


The mean NI-BUT
0th hour 11.4 ± 3.3 sec
8th-hour 7.9 ± 3.6 sec

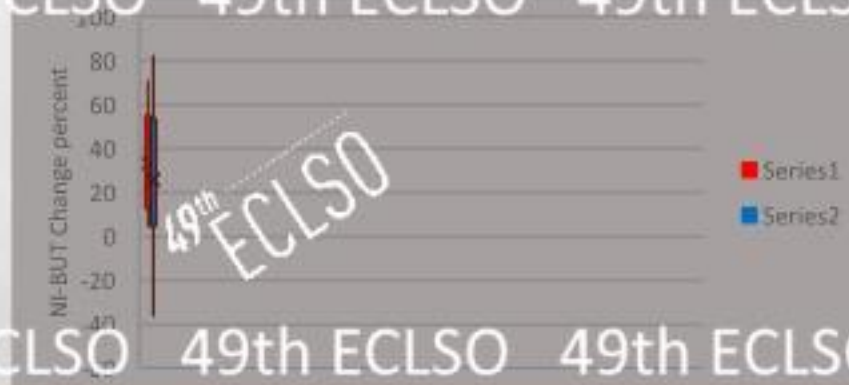
$p < 0.0001$



NI-BUT change percent – Age correlation



NI-BUT change percent – OSDI correlation



NI-BUT change percent – Gender correlation

DISCUSSION

- KROLO ET AL. 2021,

> **3 H /DAY** WEARING A FACE MASK → WORSEN DRY EYE SYMPTOMS - BASED ON THE OSDI VALUES

Krolo et al (2021) Mask-associated dry eye during COVID-19 pandemic-how face masks contribute to dry eye disease symptoms. Med Arch 75:144-148.

- JAHANBANI-ARDAKANI ET AL. 2021,

OSDI SCORES, HEALTH CARE STAFF > CONTROL GROUP (27.2 VS 7.3),

ATTRIBUTED TO MASK WEARING TIME (10.1 VS 1.2 H)

Jahanbani-Ardakani H et al. (2021) Letter to the editor: face mask associated dry eye in health care professionals amid the COVID-19 pandemic. Optom Vis Sci 98:935-936

DISCUSSION

ARTICLE

Evaluation of Ocular Surface and Dry Eye Symptoms in Face Mask Users

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[Author Information](#)

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- AKSOY ET AL.

8 H OF MASK-WEARING → DECREASED TBUT AND SCHIRMER TEST RESULTS / INCREASED THE OSDI SCORE,
TAPING THE UPPER PART OF THE MASK → DECREASED THE OSDI SCORE

CONCLUSION

- **PROLONGED USE OF MASKS**

- LEADS TO A SIGNIFICANT REDUCTION IN NI-BUT
REGARDLESS OF AGE, GENDER, AND OSDI SCORE



- SHOULD BE CONSIDERED AS A **RISK FACTOR** FOR **EVAPORATIVE DRY EYE DISEASE**



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