Health Data Stories: February 2018

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Janssen Research and Development
Columbia University Medical Center
Health stories to consider

- **January:** Thyroid Awareness Month
- **February:** American Heart Month
- **March:** National Endometriosis Awareness
- **April:** National Autism Awareness Month
- **May:** Arthritis Awareness Month
- **June:** Cataract Awareness Month
- **July:** World Hepatitis Day (July 28)
- **August:** National Immunization Awareness Month
- **September:** National Atrial Fibrillation Awareness Month
- **October:** World Mental Health Day (Oct 10)
- **November:** American Diabetes Month
- **December:** Crohn’s & Colitis Awareness Week (Dec 1-7)

[https://www.healthline.com/health/directory-awareness-months](https://www.healthline.com/health/directory-awareness-months)
FEBRUARY is American Heart Month

February 01, 2018

What is American Heart Month?

American Heart Month, a federally designated event, is an ideal time to remind Americans to focus on their hearts and encourage them to get their families, friends and communities involved.

- The first American Heart Month, which took place in February 1964, was proclaimed by President Lyndon B. Johnson via Proclamation 3566 on December 30, 1963.
Make a Go Red Commitment to take action in the fight against heart disease!

Learn More
Heart Disease Research

Did you know that more than 2,200 Americans die of heart disease every single day? That's one death every 39 seconds. And on average, someone in the United States suffers a stroke every 40 seconds, while a stroke-related death occurs about every four minutes.

Such an aggressive disease requires an equally aggressive response. That's why the American Heart Association (AHA) has spent more than $3.3 billion on research, ever increasing our knowledge and understanding about heart disease and stroke — also making AHA the largest funder of heart disease research, second only to the U.S. government.

Our mission can be summed up in one challenging 10-year goal: To improve the cardiovascular health of all Americans by 20 percent while reducing deaths from cardiovascular diseases and stroke by 20 percent by 2020.

Learn more about our goals, cutting-edge research initiatives and how you can make a difference.

Research Takes Deep Dive Into Women's Health
Four collaborative projects researching heart disease in women will focus on fasting. […]

Women Fare Worse Than Men After Heart Attack
Women age 55 or younger may fare worse than their male counterparts […]

Cardiovascular Risk Linked to Mental Function
Cardiovascular risk factors as a young adult may influence your chance of staying mentally sharp in mid-life, according to new research from the American Heart Association. […]

Insomnia May Significantly Raise Stroke Risk
The risk of stroke may be much higher in people with insomnia compared to those who don’t have trouble sleeping, according to new research. […]
Insomnia Subtypes and the Subsequent Risks of Stroke
Report From a Nationally Representative Cohort

Ming-Ping Wu, MD, PhD*; Huey-Juan Lin, MD*; Shih-Feng Weng, PhD; Chung-Han Ho, PhD; Jhi-Joung Wang, MD, PhD; Ya-Wen Hsu, PhD

Background and Purpose—The studies assessing the impact of insomnia on stroke are still lacking. We aim to investigate insomnia in relation to subsequent stroke during the 4-year follow-up.

Methods—Data from the Taiwan National Health Insurance Research Database were used. Enrollees with International Classification of Diseases, Ninth Revision, Clinical Modification diagnosis code for insomnia were compared with randomly selected, age- and sex-matched noninsomnia enrollees with subsequent hospitalization for stroke during the 4-year follow-up. All enrollees, insomniacs and noninsomniacs, did not have previous diagnosis of stroke, sleep apnea, and insomnia. Individuals with insomnia were further categorized into different subgroups based on their insomnia patterns to explore whether the risk of stroke varies by subtype. The risk of outcomes was assessed with Kaplan–Meier curves and the impact of insomnia was estimated using Poisson regression analysis and Cox proportional hazards models.

Results—The study included 21438 (mean age, 52±16 years) insomniacs and 64314 matched noninsomniacs (mean age, 51±16 years). Compared with noninsomniacs, insomniacs had 54% higher risk of developing stroke (adjusted hazard ratio, 1.54; 95% confidence interval, 1.38–1.72). When breaking down into insomnia subgroups, the persistent insomniacs had a higher 3-year cumulative incidence rate of stroke than those in the remission group (P=0.024). The insomniacs-to-noninsomniacs incidence rate ratio for stroke was highest among those aged 18 to 34 years (incidence rate ratio, 8.06).

Conclusions—Insomnia predisposes individuals to increased risk of stroke and this association is profound among young adults. Our results underscore the clinical importance of identifying and treating insomnia. A novel behavioral intervention targeting insomnia that may prevent stroke should be explored. ([Stroke. 2014;45:1349-1354.])
<table>
<thead>
<tr>
<th>Variable</th>
<th>Crude HR (95% CI)</th>
<th>Adjusted HR (95% CI)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insomnia (yes vs no)</td>
<td>1.85 (1.67–2.05)</td>
<td>1.54 (1.38–1.72)</td>
</tr>
<tr>
<td>Remission (61/2707)</td>
<td>1.55 (1.20–2.01)</td>
<td>1.57 (1.21–2.04)</td>
</tr>
<tr>
<td>Relapse (254/9662)</td>
<td>1.76 (1.53–2.02)</td>
<td>1.52 (1.32–1.76)</td>
</tr>
<tr>
<td>Persistent (268/9069)</td>
<td>2.04 (1.78–2.34)</td>
<td>1.55 (1.35–1.79)</td>
</tr>
<tr>
<td>Controls (962/64314)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Age group, y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–34</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>35–49</td>
<td>3.59 (2.29–5.62)</td>
<td>3.38 (2.16–5.29)</td>
</tr>
<tr>
<td>50–64</td>
<td>12.33 (8.04–18.92)</td>
<td>9.01 (5.86–13.86)</td>
</tr>
<tr>
<td>≥65</td>
<td>34.46 (22.58–52.59)</td>
<td>19.89 (12.95–30.56)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>0.70 (0.64–0.78)</td>
<td>0.72 (0.65–0.79)</td>
</tr>
<tr>
<td>Men</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Comorbidity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4.35 (3.86–4.90)</td>
<td>1.93 (1.70–2.20)</td>
</tr>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4.64 (4.20–5.14)</td>
<td>1.94 (1.73–2.17)</td>
</tr>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2.32 (1.96–2.74)</td>
<td>0.92 (0.77–1.10)</td>
</tr>
<tr>
<td>No</td>
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<td>1.00</td>
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<tr>
<td>Depression/anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.57 (1.31–1.88)</td>
<td>1.04 (0.86–1.25)</td>
</tr>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>Atrial fibrillation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7.02 (4.73–10.43)</td>
<td>2.26 (1.52–3.36)</td>
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<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>Geographic region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>0.68 (0.51–0.91)</td>
<td>0.87 (0.65–1.16)</td>
</tr>
<tr>
<td>Center</td>
<td>0.84 (0.63–1.14)</td>
<td>1.04 (0.77–1.40)</td>
</tr>
<tr>
<td>South</td>
<td>0.86 (0.64–1.14)</td>
<td>0.99 (0.74–1.33)</td>
</tr>
<tr>
<td>East</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>SES (monthly insurable wage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTD&lt;15,840</td>
<td>4.64 (3.81–5.65)</td>
<td>1.68 (1.36–2.07)</td>
</tr>
<tr>
<td>NTD, 15,841–25,000</td>
<td>3.00 (2.43–3.69)</td>
<td>1.52 (1.22–1.89)</td>
</tr>
<tr>
<td>NTD&gt;25,001</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

CI indicates confidence interval; HR, hazard ratio; NTD, New Taiwan dollar; and SES, socioeconomic status.

*Parameters were adjusted for all covariates included in the model.
My interpretation of their ‘case-cohort’ design

Cases:
- Insomnia
  - Covariates used in adjustment
  - Follow-up time to observe outcome

Comparator cohort:
- No insomnia
  - Covariates used in adjustment
  - Follow-up time to observe outcome

Matched on ‘index enrollment date’, sex, and age
Reimagining the ‘risk factor’ study as a population-level effect estimation using a comparative cohort design

Target cohort:
- Baseline time to define covariates used in adjustment
- No prior insomnia
- No prior stroke
- Visit
- Follow-up time to observe ‘risk factor’

Comparator cohort:
- Baseline time to define covariates used in adjustment
- No prior insomnia
- No prior stroke
- Visit
- No insomnia in ‘risk factor’ time

Match on all baseline covariates at the index visit (not insomnia onset) to ensure temporality of causal factors
So what can we do using the OHDSI tools?
Comparative cohort analysis results

Original cohorts:
Treated: n = 9999
Comparator: n = 6770297

Before matching

Random sample
Treated: n = 0
Comparator: n = 6670297

No prior outcome
Treated: n = 0
Comparator: n = 0

Matched on propensity score
Treated: n = 155
Comparator: n = 90156

After matching

Study population:
Treated: n = 9844
Comparator: n = 9844
Comparative cohort analysis diagnostics

Look at all the baseline differences before matching!
Several baseline factors not considered for adjustment by Wu et al.
Insomnia onset appears to increase risk of stroke!

HR = 1.68 (1.10 – 2.59)
Health stories to consider

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WORLDWIDE ENDOMETRIOSIS MARCH

MARCH 24th, 2018

#EndoMarch2018

www.endomarch.org | info@endomarch.org

USA EVENTS
Latest Endometriosis Research

Study shows endometriosis increases risk for multiple surgeries and ovarian cancer

Endometriosis increases risk of multiple surgeries and ovarian cancer
Key Findings: The study found that women

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A multidisciplinary approach to diaphragmatic endometriosis

Publish date: October 2, 2017 By: Caana Nazhat, MD Endometriosis affects approximately 11% of women; the disease

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Update in Innovation: Surgical Management of Endometriosis

Camran Nazhat MD, FACOG, FACS, Megan Kennedy Burns, MD, MA, Lucia DiFrancesco, MD, Stacy Young, MD Farr Nazhat, M

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Questions?

Join the journey!

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