QUESTIONNAIRE REVIEW

Epworth Sleepiness Scale

Brief history
The Epworth Sleepiness Scale (ESS) was developed by Murray Johns in 1990 and published in 1991. Its name derived from Epworth Hospital in Australia, where Johns worked [1]. The ESS provides a simple standardized means of measuring general levels of sleepiness. Comparatively objective sleepiness screening measures such as the Multiple Sleep Latency Test and Maintenance of Wakefulness test can be complex and costly to use [2].

Description
The ESS is a short easy to administer questionnaire that subjectively measures sleepiness in ordinary life situations. Users rate their chances of sleeping in eight situations on a 4-point scale with a minimum score of 4 and maximum of 24. Normal score range between 0 and 10. Score above 10 require further medical assessment [2].

Items
Each situation receives a score of 0–3:
0 = would never doze
1 = slight chance of dozing
2 = moderate chance of dozing
3 = high chance of dozing

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of dozing or sleeping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and reading</td>
<td></td>
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<tr>
<td>Watching TV</td>
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<tr>
<td>Sitting inactive in a public place</td>
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<tr>
<td>Being a passenger in a motor vehicle for an hour or more</td>
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<tr>
<td>Lying down in the afternoon</td>
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<td>Sitting and talking to someone</td>
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<tr>
<td>Sitting quietly after lunch (no alcohol)</td>
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<tr>
<td>Stopped for a few minutes in traffic</td>
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<tr>
<td>Total score</td>
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</table>

Validity
The ESS has statistically significant association but weak correlation with mean sleep latency ($r = 0.51, P > 0.01$). Although correlation between ESS and obstructive sleep apnoea (OSA) severity is relatively weak, it is still considered the best available tool for assessing perception of sleepiness. The Scottish Intercollegiate Guidelines Network recommends using ESS for assessing OSA [3]. The ESS has a high internal consistency between eight items with a Cronbach’s alpha of 0.88 [4]. In normal subjects, test–retest reliability stays high over 5 months [5]. In patients with OSA, evidence [5] suggests a return of ESS score to normal after treatment.

Key research
A retrospective review of 268 patients diagnosed with OSA found that at the suggested 10 cut-off, ESS score had a low sensitivity (66%) in identifying apnoea–hypopnoea index of ≥5 which increased to 76% at a lower cut-off of 8. Reducing the cut-off to 8 is suggested as more effective in identifying sleep disorders in the general clinic population [6].

Source
The ESS is freely accessible for individual use but requires a licence for corporate use. There are several translations including Spanish, Portuguese, Italian, German, Swedish, Finnish, Greek, French, Mandarin, Japanese and Turkish [1].

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References