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Profiling insomnia using subjective measures: Where are we and where are we going

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**Title:**

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Over the last decades, significant advances have been made in the conceptualization, diagnosis and treatment of insomnia [1]. Despite this progress, the “gold standard” for diagnosing insomnia is still a comprehensive clinical interview. Moreover, subjective and objective tools are available to evaluate multiple aspects of insomnia experience [2].

Several comprehensive models have been suggested to understand insomnia, and different effective intervention techniques have emerged concomitantly [3]. Different models are useful because these explain separate dimensions of insomnia experience. It is, therefore possible that several profiles of insomnia and insomnia patients may exist [4].

Both clinical experience and sleep research have stimulated us to think insomnia as a sleep disorder having multiple phenotypes. These phenotypes may not be clearly distinguished using (only) objective or even neuroimaging measures. Perhaps we need to focus on refinement of relevant self-report measures and select which of them (or part of them) are discriminative in a parsimonious way in insomnia disorder. Additionally, we need to think which of these measures may fit better with biomarkers of insomnia when available.

Regarding insomnia, the development of an inventory that measures insomnia profiles would benefit the field. For this purpose, researchers will need to depend on discriminative statistical analyses [5, 6]. With more studies using this rationale and methodologies, we may soon be able to create an insomnia profile measure, which could be very useful in clinical settings. Operationally, we need to ask: What type of measures should we include in this instrument? In other words, which items of existing scales should we choose to construct that instrument? Do we need more scales to compose the “whole picture”? What sleep-related and non-sleep-related domains should be covered? We believe the answer to these and other similar questions may become available during the next years of intensive

research in the field. For instance, our research team is currently working on a project about mindfulness profiles in insomnia. This may be an important dimension to cover in the daily clinical routine assessment of insomnia in the future. We expect that these tiny steps may contribute to a better understanding of insomnia experience.

Looking at all these aspects, some working hypotheses may be posed. Perhaps we can find an interesting model of insomnia that can enable us to develop a framework for the inventory to classify different profiles of insomnia. These profiles may require different therapeutic strategies, and perhaps the efficacy levels of current therapies may improve. Though this framework appears to make sense, we should, however, recognize that it is purely a speculation at the current moment.

In conclusion, insomnia seems to be a multidimensional disorder which may benefit from a discriminative approach to identify different phenotypes. When we have considerable amount of evidence based on research in this area, efforts to develop a profile measure of insomnia should be carried out. This agenda research may help in classifying insomnia in the coming years.

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