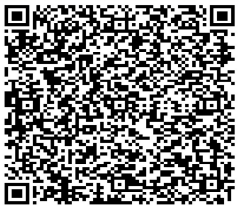
ANXIETY /ANSIEDAD



From Morse Code To Diagnostic Qr Codes: Towards A Data-Based Psychiatry

Introduction

Since the 19th century, humanity has developed coding systems to transmit information efficiently. Morse code, based on binary signals of dots and dashes, revolutionized long-distance communication. Later, barcodes enabled the quick identification of products through visual patterns. Finally, QR (Quick Response) codes have allowed the storage and dynamic access to large volumes of information. This evolutionary process in data encoding can serve as an analogy to improve diagnostic systems in psychiatry, which currently rely more on statistical correlations than on underlying biological mechanisms.

History of Coding Systems

Morse code introduced a simple yet effective model for transmitting data using discrete signals. Later, barcodes added a visual structure that facilitated automatic pattern recognition. The final evolution came with QR codes, which allow the storage of multidimensional information in a two-dimensional matrix, optimizing data retrieval and updating.

Limitations of Psychiatric Diagnostic Systems

Current diagnostic manuals, such as the DSM-5 and ICD-11, classify mental disorders into static categories based on observable symptoms. However, these criteria present several problems:

- **Lack of specificity**: Symptoms like insomnia, fatigue, or anxiety are present in multiple disorders, reducing their diagnostic value.
- **Absence of biological markers**: Unlike other branches of medicine, psychiatry lacks widely accepted biomarkers that allow precise differentiation between pathologies.
- **Rigid and categorical approach**: A patient may receive multiple diagnoses over time without a model that reflects the dynamic evolution of their condition.

Towards a QR Coding Model in Psychiatry

Inspired by QR codes, a dynamic diagnostic coding system could be established incorporating multiple levels of information:

1. **Genetic factors**: Polymorphisms associated with neurotransmission and stress regulation.
2. **Biochemical biomarkers**: Levels of cortisol, serotonin, and neuroimmune inflammation.
3. **Functional neuroimaging**: Patterns of brain connectivity in fMRI or PET scans.
4. **Clinical history and symptom evolution**: Longitudinal data enabling an adaptable diagnosis.

Each patient would receive a **personalized QR code**, representing their neurobiological and clinical profile. This code would be updated as new data is obtained, allowing for a **more precise and flexible** classification than traditional systems.

Example: QR Code for Anxiety

A patient with anxiety symptoms could receive an initial QR code with information about their biological and genetic markers. If their clinical condition evolves into a more defined subtype in the future, the code would be updated without losing prior information, reflecting a more dynamic and data-driven model.

Conclusion

Psychiatry needs a paradigm shift in its diagnostic classification system. Drawing inspiration from digital encoding systems, such as QR codes, would enable a more precise and personalized approach based on objective data. Integrating biomarkers, neuroimaging, and genetics into a dynamic classification system would revolutionize the way we understand and treat mental disorders, improving diagnostic accuracy and therapeutic effectiveness.