

Title: Facial Emotion Recognition in participants with PSG-proven RBD – an exploratory study

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Idiopathic REM Sleep Behavior Disorder (iRBD) involves dream-enactment behaviors during REM sleep and often precedes Parkinson's disease (PD) by several years. The impact on facial emotion recognition—a crucial component of social cognition—remained unexplored.

This study examined whether participants with polysomnography (PSG) confirmed RBD show difficulties in recognizing facial emotions compared to control individuals, potentially revealing early social cognitive deficits.

We recruited 27 RBD participants from the Luxembourg National Sleep Study and 27 healthy controls from the Luxembourg Parkinson's Study(1), matched for age and sex. All participants completed a cognitive screening test (MoCA), questionnaires on depression (Beck Depression Inventory-I), apathy (Starkstein Apathy Scale) and facial emotion recognition testing (Ekman 60 Faces test).

The iRBD group(20 males, mean age 67.2 yrs $\pm$ 6.5) and control group(19 males, mean age 66.9 yrs $\pm$ 6.3) showed similar depression scores, and overall facial emotion recognition total scores. iRBD participants demonstrated lower cognitive scores(MoCA: 25.6 $\pm$ 2.4 vs 27.6 $\pm$ 1.9; p = 0.003) and higher apathy levels but without reaching the cut-off for presence of apathy(SAS: 12.9 $\pm$ 5.3 vs 9.9 $\pm$ 5.2; p = 0.02). Within the iRBD group, increased apathy correlated with poorer anger recognition(r = -0.46, p = 0.02).

General emotion recognition remain largely intact in RBD participants. However, the relationship between apathy and difficulty recognizing anger suggests that these selective deficits may emerge earlier in the disease process than previously thought(2). Further research will investigate whether variations in REM sleep quality are associated with emerging social cognitive changes.

References

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