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Speech in noise performance in individuals with misophonia and hyperacusis using behavioral and auditory brainstem response

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Hyperacusis is reduced tolerance to everyday environmental sounds, whereas misophonia is a relatively unknown disorder in which characterized by intense and excessive emotional responses to specific “trigger” sounds. Few studies have investigated ability of speech in noise (SiN) and examined them using auditory brainstem responses (ABR)—which is used to measure early auditory processing and overall hearing function in human listeners, in particular for the sound sensitivity disorders of misophonia and hyperacusis. The primary aim of this study was to investigate the relationships between SiN performance and ABR components, specifically for group differences. A total of 60 participants were categorized into three groups: 13 with misophonia, 12 with hyperacusis, and 35 control group. Our findings indicated that (1) the misophonia group showed poor speech in noise performance than control and hyperacusis groups at 20 and 5 SNR; (2) both hyperacusis and misophonia

groups
showed
enhanced
wave
I
amplitude
compared
with
the
control
group;
and
(3)
the
misophonia
group
showed
prolonged
wave
V
latency
compared
to
the
other
two
groups.
Additionally,
delayed
ABR
wave
V
latency
in

misophonia
group
was
correlated
with
decreased
speech-
in-
noise
performance
score,
suggesting
possible
delays
in
processing
of
speech
sounds
in
this
group
leading
to
poorer
performance.

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