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Linking Autism and Alzheimer's: An integrated approach



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Introduction

With the new clinical trials of medication for treatment of Alzheimer's beginning in Australia based upon the research of Austin Hospital Associate Professor Michael Woodward in Melbourne SBS [1], the first thing to consider is its implications for Autism Spectrum Disorder. Previous treatments for Alzheimer's attempted to eliminate the amyloid protein build-up but the new CT1812 being tested examines how proteins bind to the receptors involved in cell communication. Memory in mice has been shown to improve in pre-clinical trials, according to Prof. Woodward SBS [1], so everyone is optimistic about its implications for human memory in the elderly. But how can this process be prevented?

Going back to the beginning, with Vitamin D levels of pregnant women being shown to cause neuronal developmental issues later on in their children Scott [2], and the link between lower Vitamin D levels and their own neuronal health Richards [3], linking this to telomere length and health risks later in life may include cancer, schizophrenia, and autism. Professor John McGrath of the Queensland Brain Institute says that the research conducted shows that low Vitamin D levels "disrupt brain development" Scott [2] which includes Autism Spectrum Disorder (ASD). However, biological predisposition is only the beginning.

Psychological stress has been shown to increase the rate of telomere shortening Mather [4], and also reduce vitamin D uptake in the body Harvard Medical School [5]. So how can we, as educators and health care professionals take an integrated approach to stress reduction that may facilitate the reduction of telomere breakage and thus slow or prevent the onset of Alzheimer's or reduce the impact of ASD? Taking a phased approach to social psychological development, linking to physical development, as an integrated health and wellness approach,

we suggest would include a return to Piaget's 1936 theory of cognitive development McLeod [6]. When working with either end of the spectrum, whether working with childhood autism or the aged with Alzheimer's, if an assessment can be conducted to determine which phase of development the client is in, this may be able to reduce the level of perceived stress when performing daily tasks or routines, or especially when introducing new concepts such as shifting into an aged care facility, or learning the alphabet in school.

Thus, putting aside the traditional aged norms in Piaget's theory McLeod [6], which may or may not apply due to telomere reduction or disruption of protein synthesis, it would be important for staff such as teachers, school psychologists, teacher's aides or aged care helpers to become aware of the needs associated with the stage of development the client is in based upon their own personal biological and psychological development, older or younger [7-11].

Conclusion

By adjusting and amending the chronological aged norms in Piaget's theory linked to the specific stages of development, and being able to adjust for direction of that development, with both autistic and Alzheimer's patients reversing in mental age more often than not, we can view the assessment as a matching process. By matching the Piaget's stage to each client, we can adjust tasks and procedures to reduce the overall stress the client may be subjected to, and thus prevent further advancement of these illnesses.

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