ABSTRACT

People are living longer due to advancement in the medical and technology fields. In 2008, 12.8% of Americans were 65 years or older, with 10% of this group suffering from Alzheimer's disease (AD). Since 1980, the number of people with the disease has doubled. The cause and cure are currently unknown. AD can be devastating, as memory and functioning begin to decline and once-simple tasks become difficult. While research to find a cure is underway, music therapy may be helpful in increasing the quality of life for sufferers. When recognizable music is played, many patients are able to hum or sing along with the song despite not remembering what they had just said. This suggests that music therapy can have a positive effect on people suffering from AD.

It is first essential to look at some research on potential causes of Alzheimer's Disease.

- The Amyloid β protein combined with genetic factors is currently being studied (Selkoe 240). Plaques created from the proteins accumulate in the brain and affect the declarative and episodic memory (239). Rats who were trained to pull levers were injected with the AD proteins. They began making errors, but the effects wore off the next day. This suggests that AD may begin developing over a long period of time, eventually causing AD. Research suggests the left hemisphere of the brain being paralyzed, he was still able to sing. AD patients can usually communicate until the disease becomes severe, but their brains continue to shrink. It was suggested that when the right hemisphere becomes damaged, the effects are less obvious compared to the left hemisphere. It may also be that the right hemisphere uses more brain tissue when processing compared to the left hemisphere (16). This may be a possibility as to why AD patients are still able to retain their ability to sing along with songs.

Since no one is sure what causes AD and music seems to have an effect, music therapy may be helpful.

- Since patients are able to sing words to a song, but have trouble speaking, that may be a clue to the affected parts of the brain. The right hemisphere is considered the creative half of the brain, while the left hemisphere is more logical. The earliest case study on the right hemisphere was back in 1745. “He had an attack of a violent illness which resulted in a paralysis of the entire right side of the body and complete loss of speech. He can sing certain hymns, which he had learned before he became ill, as clearly and distinctly as any healthy person...Yet this man is dumb, cannot say a single word except “yes” and has to communicate by making signs with his hand” (Springer and Deutsch 15). Despite the left hemisphere of his brain being paralyzed, he was still able to sing. AD patients can usually communicate until the disease becomes severe, but their brains continue to shrink. It was suggested that when the right hemisphere becomes damaged, the effects are less obvious compared to the left hemisphere. It may also be that the right hemisphere uses more brain tissue when processing compared to the left hemisphere (16). This may be a possibility as to why AD patients are still able to retain their ability to sing along with songs.

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- A study of aggression shows that music therapy may be beneficial in the short term, but not the long term (Ledger and Baker 335). There was a control group who got no therapy and an experimental group who got weekly therapy (331). If there is evidence that music therapy can be beneficial in the short term, then it must have affected the cognitive progress somehow.

- Another study looks at how music can be effective in healthy elderly people. Participants were given an organ with weekly group and private music lessons (Koga 19). Researchers studied their mental and physical health and determined that depression, anxiety, and loneliness had decreased. There was also a 90% increase in growth hormones (21-22). Normally growth hormones decrease as a person ages, which may or may not have anti-aging properties. While AD patients may not be able to keep up with learning a new instrument, having music therapy classes may help them to live healthier lives.

- Progress is being made in determining the cause of AD, but there is still much research to be done. In the meantime, music therapy can have a positive effect on patients by helping to improve anxiety, depression, aggression, and other problems that can decrease quality of life.

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MATERIALS AND METHODS

METHODOLOGY

WORKS CITED


Photographs (from left to right):
- http://www.dementiauk.org/assets/images/what_we_do/training/violin.jpg
- http://www.aoa.gov