

Music Therapy and Kidney Disease: Raising Awareness and Clinical Applications

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Introduction

Music has been a constant part of culture since the start of civilization. The purposes of music range from aesthetic pleasure, religious or ceremonial purposes, and as a product in society. More recently, the use of music as a form of therapy is becoming recognized in our communities.

Studies have shown positive effects of music on measured physiological changes in hemodynamic, respiratory, and neurological function^{1,2}. Although studies have proposed that music therapy has an effect on dialysis and kidney transplant patients, solid evidence of its utility is lacking in areas of kidney disease.

Several famous composers have suffered from kidney disease, including Beethoven, Mozart, and Dvorak. The recognition of the diseases these celebrities had has helped increase public awareness and support of kidney disease.

History of Music and Health

The therapeutic relationship between music and medicine dates back to the dawn of civilization. For example, mothers used humming to console their crying babies, and medicine women and shamans treated ill members through their incantations and maneuvers³. Hippocrates, the founding father of rational medicine, and Plato, are reported to have supported using music for disturbed patients⁴. The Persian philosopher Abu Nasr al-Farabi, or Alfarabius, wrote about the therapeutic effects of music in his essay, *Meanings of the Intellect*. He writes, “music promotes good mood, moral education, emotional steadiness and spiritual development.

It is useful for physical health. When the soul is not healthy, the body is also ill. Good music, which cures the soul, restores the body to good health”^{5,6,7}. When Western medicine was revived in the Renaissance, the relations with music and human physiology was also recognized. As Francis Bacon said, “...the poets did well to conjoin Music and Medicine in Apollo, because the office of medicine is but to tune this curious harp of man's body and to reduce it to harmony”⁸.

Famous Musicians with Kidney Disease

Musician, Country	Kidney Disease
Wolfgang Amadeus Mozart <i>Austria</i>	Post-infectious Glomerulonephritis
Ludwig Beethoven <i>Germany</i>	Papillary Necrosis
Giovanni Gabrieli <i>Italy</i>	Nephrolithiasis
Antonin Dvorak <i>Czech Republic</i>	Chronic Kidney Disease
Arthur Sullivan <i>United Kingdom</i>	Nephrolithiasis
Isaac Albeniz <i>Spain</i>	Chronic Kidney Disease
Oscar E. Peterson <i>Canada</i>	Chronic Kidney Disease
Natalie Cole <i>United States</i>	Membranoproliferative glomerulonephritis
Dayna Stephens <i>United States</i>	Focal Segmental Glomerulosclerosis

Table 1. Famous Musicians with Kidney Disease.

Ludwig Beethoven. Beethoven's body was autopsied within 24 hours of his death, revealing detailed evidence of his undiagnosed kidney disease: “Both kidneys were invested by a cellular membrane of an inch thick, and

infiltrated with a brown turbid fluid; their tissue was pale-red and opened out”⁹. This has been interpreted as a description of renal papillary necrosis (RPN).

Wolfgang Amadeus Mozart. Mozart is not only a world-renown composer, but the circumstances to his early death were of particular interest to many. Although forensics was not able to confirm the cause of his death, many suspect the cause to be due to kidney disease. He died after a brief illness of 2 weeks, which has been postulated to be due to a rapidly progressive postinfectious glomerulonephritis¹⁰. The “taste of death” he described is thought to be the foul taste of uremia¹¹. Moreover, the presence of edema suggests nephrotic syndrome, making his diagnosis for glomerulopathy or volume overload likely¹².

Antonin Dvorak. Dvorak died from Bright’s disease diagnosed by urinalysis. Although the cause of his kidney failure is not well explored, it is postulated to be due to urinary tract obstruction and pyelonephritis^{13,14}.

Dayna Stephens. Stephens continues to perform while on hemodialysis and is currently awaiting on a kidney transplant¹⁵.

Music and Clinical Applications

Public awareness and support for kidney disease is a crucial component to preventative care and decreasing the prevalence of kidney disease. For patients already diagnosed with kidney disease, music can be helpful in the clinical setting for CKD and dialysis patients.

For patients with CKD, the best treatment is to slow the progression of this silent disease and add more years to patients’ lives without the need of dialysis or kidney transplant with the proper diet, controlled blood pressure and blood glucose, and with the wholesome benefits of music. The use of music as a medium enhances

the educational experience that patients receive on disease management and lifestyle modifications, making it more digestible and better retained.

For patients on dialysis, the use of music is focused on quality of life improvement, anxiety and pain management, support with emotional wellbeing, and optimization of hemodynamic measures, like blood pressure and heart rate.

References

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⁸ Bacon F: *The Advancement of Learning*. London, UK: Dent & Sons, 1915.

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¹² Ibid.

¹³ Clapham J: *Dvorak. Musician and Craftsman*. London, UK: St. Martin's Press, 1966.

¹⁴ Dvořák O: *Antonin Dvořák. My Father*. Spillville, Iowa: Czech Historical Research Center, 1993.

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