



# Music Intervention as a Restraint Episode Reduction Tool for Patients 65 and Older

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**PICO:** For patients in acute care facilities aged 65 and older at risk for delirium; does participating in a music intervention for 30 minutes per day reduce restraint episodes and duration compared to a similar group of patients who have not participated in the music intervention?

## BACKGROUND

- The American Psychiatric Nurses Association defines restraints as devices that prevent a person from freely moving their body or body parts.
- Devices may be physical, such as arm and wrist straps, or medications meant to restrict activity (APNA, 2014).
- All together, restraints account for more than 23% of staff time, totaling more than \$1.4 million dollars (U.S. Department Of Health And Human Services. SAMHS, 2011)
- A common justification for the use of restraints is patient safety.
- However, restraints ↑ muscle weakness ↓ physical function ↑ number of falls & ↑ number of patient deaths (“Falls in Nursing Homes”, CDC, 2014).
- A systematic intervention reduced the rate of restraint and seclusion episodes by 89% from 2001-2008 (U.S. Department Of Health And Human Services. SAMHS, 2011).
- The NASMHPD’s Six Core Strategies avoided more than 34,037 restraint episodes, which saved an average of \$1.33 million per year. \$10.72 million in total since the start of the initiative (U.S. Department Of Health And Human Services. SAMHS, 2011).

## SEARCH STRATEGY

- The scholarly databases searched to gather evidence included: Ebsco Host, CINAHL, Medline and PUBMED.
- The keywords were: physical restraints, geriatric, elderly, music, restraint alternatives, pharmacological restraint reduction, and music therapy.
- Delimitations used were: peer-reviewed articles, within the past five years, and in English.

## LITERATURE REVIEW

- According to Paterson et al (2003) and Evans (2010) patients who are restrained have “higher rates of complications and are at higher risk of death” (as quoted in Dewing, 2010).
- Restraints have been associated with “incontinence, pressure ulcers, immobility [and] more agitated behaviors” (Dewing, 2010).
- A study done by Vink et al. (2013) proved that music therapy was more effective in dealing with agitation than other recreational activities
- Research shows that playing music that is familiar to the patient, helps confused patients in new environmental settings and stabilizes their agitation (Sung, Chang & Lee, 2010; Craig, 2014).
- Studies have shown that music therapy and education reduce restraint use by alleviating anxiety in older patients (Koczy et al, 2011).
- The effects of music used as therapy on elderly patients in acute care settings is not known. Therefore, the use of music therapy has to be modified in order to become a feasible intervention for patients at risk for delirium in a hospital setting (McDermott, Crellin, Ridder, & Orrell, 2013).



## MAJOR EBP RECOMENDATIONS

- Since restraints are used for patients who are at risk for hurting themselves or others, and anxiety, agitation, and irritability are some of the signs that nurses use to determine when a patient is at risk, interventions aimed at reducing these signs should ultimately reduce the incidence and duration of restraint episodes for these patients.
- Music therapy (MT), has positive effects on behavioral and psychotic symptoms of dementia, BPSD. Raglio, et al. (2010) demonstrated “that the active MT approach based on relationship can improve BPSD, in particular those that appear to be more related to the psychological and emotional regulations (i.e. depression, anxiety, agitation, apathy and irritability).”
- Raglio, et. al described a notable difference in the patients in the experimental group’s BPSD during continuous music therapy compared to intermittent music therapy (Raglio, et. al. 2012).
- Based on the synthesis of evidence, continuous music therapy is an effective intervention to reduce anxiety, agitation, and irritability in patients aged 65 and older in acute care facilities.

## IMPLEMENTATIONS

- The targeted population are patients aged 65 and older, at risk for delirium, at the Mount Sinai Hospital Queens acute care geriatric unit. This population is at risk for delirium based on age and hospitalization.
- At the start of the study, the nurse will assess each participant using the Cohen-Mansfield Agitation Inventory (CMAI).
- An investigation of the each patient in the experimental group’s preferred music, with a focus on music that makes the patient happy, will be performed. Playlists of songs will be created based on the patients preferences and added to a personal listening device.
- The nurse facilitators will educate each patient in the experimental group on how to use the personal listening device and will aid patients with the use of the device.
- The personal listening devices will be used for 30 mins each day.
- Reassessment using the CMAI will be completed immediately following every 30 minute music intervention session. Scores will be documented.



## EVALUATION

- Agitation will be measured using the Cohen-Mansfield Agitation Inventory (CMAI). The CMAI is a, “29-item scale to systematically assess agitation...Elderly persons are rated by a primary caregiver regarding the frequency with which they manifest physically aggressive, physically non-aggressive and verbally agitated behaviors” (American Psychological Association, (n.d.).
- Reassessment of the experimental group using the CMAI will be completed immediately following every 30 minute music intervention session
- Patients in the control group will also be assessed using the CMAI once per day for the duration of their hospital admission, or for a maximum of 7 days
- The incidence of restraint and total time per restraint episode for all patients on the unit will be compared, noting whether participants belong to the control or experimental groups.
- CMAI scores for all patients on the unit will be compared to determine what effect the MI had on patients’ rate of agitation. CMAI comparisons will be made regardless of whether patients were restrained during the study.
- This is a Prospective Cohort Study that measures if music intervention provided to group A (experimental) effects the amount of time in restraints compared to group B (control) who have not been given music intervention.
- An average restraint episode time for both group A and group B will be calculated. Following, an paired T-test of the means would be calculated
- The paired T- test will provide the P Value. A P value over 0.05 would indicate the null hypothesis is correct and music intervention had no effect on lowering the restraint episode time in experimental group (A).
- A P value of less than 0.05 would show that our study findings reject the null hypothesis and that music therapy does have an effect on restraint episode time for the patients in this study.
- We hope that the results support music intervention as a means to reduce patient agitation levels which would result in a decrease in the incidence and duration of restraint episodes for patients ages 65 and older admitted to Mount Sinai Queens acute care facility.

## CHANGE PROCESS

- In order to implement our study at Mount Sinai Queens Hospital we would need the following:
- Nurse participation and education regarding study objectives and personal listening devices.
  - A collection of personal listening devices by donation or funding to purchase listening devices.
  - Funds to purchase electronic music files selected by the participants in the experimental group to be added to his or her playlists.
  - Paper copies of the CMAI scale to record participant agitation levels.
  - Following the successful outcome of the music therapy intervention to reduce restraint episodes at Mount Sinai Queens Hospital, other acute care facilities will implement the music therapy intervention as well.

## REFERENCES

- American Psychiatric Nurses Association. Standards Of Practice: Seclusion and Restraint. (May, 2000; Revised, May 2007; Revised, April 2014) <http://www.apna.org/44a/pages/index.cfm?pageid=3730>
- American Psychological Association, (n.d.). Cohen-Mansfield Agitation Inventory Retrieved from <http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/cohen-mansfield.aspx>
- Centers for Disease Control and Prevention. Home & Recreational Safety. Falls In Nursing Homes. (September 2014). <http://www.cdc.gov/homeandrecreational/safety/falls/nursing.html>
- U.S. Department Of Health And Human Services. Substance Abuse and Mental Health Services Administration. The Business Case for Preventing and Reducing Restraint and Seclusion. SMA 11-4632 (2011). <http://store.samhsa.gov/shin/content/SMA11-4632/SMA11-4632.pdf>
- McDermott, O., Crellin, N., Ridder, H., & Orrell, M. (2013). Music therapy in dementia: a narrative synthesis systematic review. *International Journal Of Geriatric Psychiatry*, 28(8), 781-794. doi:10.1002/gps.3895
- Koczy, P., Becker, C., Rapp, K., Klie, T., Beische, D., Bichele, G., & ... Bredthauer, D. (2011). Effectiveness of a Multifactorial Intervention to Reduce Physical Restraints in Nursing Home Residents. *Journal Of The American Geriatrics Society*, 59(2), 333-339. doi:10.1111/j.1532-5415.2010.03278.x
- Raglio, A., Bellelli, G., Traficante, G., Gianotti, M., Ubezio, M.C., Gentile, S., Bellandi, D., Villani, D., & Trabucchi, M. (2010) Efficacy of music therapy treatment based on cycles of sessions: A randomised controlled trial. *Aging & Mental Health*, 14 (8), 900-904. doi: 10.1080/13607861003713158
- Vink, A. C., Zuidersma, M. M., Boersma, F. F., Jonge, P. P., Zuidema, S. U., & Slaets, J. J. (2013). The effect of music therapy compared with general recreational activities in reducing agitation in people with dementia: a randomised controlled trial. *International Journal Of Geriatric Psychiatry*, 28(10), 1031-1038. doi:10.1002/gps.3924
- Dewing, J. (2010). Responding to Agitation in People with Dementia. *Nursing Older People*, 22(6), 18-25.