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# Effects of Therapeutic Music on Improving Depressive Symptoms Among Long-Term Care Facility Residents

Yi Jin, BSN, RN, DNP Student



## Significance of the Problem

- Depression affects nearly 5 million Americans aged 65 and older (Blazer, 2009), nursing home residents are particularly susceptible to the debilitating disease of depression (Morley, 2010).
- Depression is associated with decreased level of functioning and quality of life as well as increased agitation among nursing home residents (Lolk & Andersen, 2015).
- Various studies reveal that therapeutic music could be incorporated as an adjunct therapy in decreasing anxiety and depression among elderly people (Aalbers et al., 2017; Quach, 2017; Van der Steen et al., 2017; Zhao, Bai, Bo, & Chi 2016).

## PICOT Question

Among long-term care facility residents who are 55 years old and above, have Brief Interview for Mental Status (BIMS) scores  $\geq 8$  and Geriatric Depression Scale-Short Form (GDS-SF) scores  $\geq 2$  (P), how does a weekly 30-minute-session of listening-to-favorite-music activity (I) compared to current practice of no regular favorite-music-listening activity (C) affect depressive symptoms (O) within an 8-week and a 12-week time period (T)?

## Review of the Literature

**Key Terms:** “depress\*” and “music”

**Limiters:** “2012-2018”, “English language”, “scholarly journals”, “aged: 65 + years”, and “aged: 80 and over”

**Inclusion Criteria:** evaluated depression as an outcome; primary interventions included therapeutic music

**Exclusion Criteria:** primary outcome was related to other chronic disease management, such as fibromyalgia, sclerosis, or stroke rehabilitation; studies were conducted in acute settings; type of music adopted was limited to a localized population with poor generalizability; studies received a rating of “low quality or major flaws” evaluated with the tool to follow

### Results of Literature Search

| Database                         | Yielded | Duplicates | Reviewed | Accepted |
|----------------------------------|---------|------------|----------|----------|
| Cochrane                         | 27      | 2          | 4        | 2        |
| JBI                              | 35      | 0          | 5        | 1        |
| CINAHL                           | 60      | 12         | 21       | 2        |
| MEDLINE                          | 99      | 25         | 38       | 2        |
| Nursing & Allied Health Database | 47      | 6          | 12       | 0        |
| PsycINFO                         | 155     | 32         | 10       | 0        |
| PsycARTICLES                     | 2       | 0          | 2        | 0        |
| Citation Chasing                 | N/A     | N/A        | 5        | 2        |
| Total                            | 425     | 77         | 97       | 9        |

## Synthesis of Evidence

**Level:** Hierarchy of Evidence for Intervention Questions (HEIQ) (Melynk & Fineout-Overholt, 2015)

**Quality:** Johns Hopkin Research Evidence Appraisal Tool (JHREAT) (Dang, & Dearholt, 2017)

**Main Outcome:** depression

### Results of Evidence Appraisal

| Level | Design  | Quality | Accepted |
|-------|---|---------|----------|
| I     | Systematic Reviews  | High    | 2        |
|       |   | Good    | 3        |
| II    | Randomized Controlled Trials  | Good    | 3        |
| III   | Controlled Cohort Studies   | Good    | 1        |
| IV    | Uncontrolled Cohort Studies   | N/A     | 0        |
| V     | Case Studies and Case series, Qualitative & Descriptive Studies, EBP Implementation & QI Projects | N/A     | 0        |
| VI    | Expert Opinion  | N/A     | 0        |

## Decision to Change Practice

- A best practice model recommendation can be made to include therapeutic music as a complimentary therapy in managing depressive symptoms among residents from the long-term care facility.
- Music could be delivered via live performance, music therapist-led activities as well as tablets or CD players depending on practicability. The intervention could take place in individual patients’ rooms or in activity rooms with the assistance of nursing or activity staff.
- Residents should be offered opportunities to choose their preferred music, and some possible choices include Western Classical, Western modern jazz music as well as traditional folk songs from the 1920s to 1960s.
- An individual intervention session should be at least 30 minutes long, and one or more sessions should be provided every week. Most studies employed a total intervention period between 4 - 16 weeks.
- Hamilton Rating Scale for Depression (HAM-D), Beck Depression Inventory (BDI), Geriatric Depression Scale (GDS), and Geriatric Depression Scale-Short Form (GDS-SF) are some established instruments for monitoring depressive symptoms.

(Aalbers et al., 2017; Chan et al., 2012; Davison et al., 2016; Guétin et al., 2009; Janata, 2012; Klainin-Yobas, Oo, Suzanne Yew, & Lau, 2015; Quach, 2017; Van Der Steen et al., 2017; Zhao et al., 2016)

## Implementation

**Sample:** 55 years old and above, BIMS scores  $\geq 8$ , GDS-SF scores  $\geq 2$ ; (n=11)

**Setting:** a long-term care facility in the Midwest

**Design:** one group pretest / posttest

**Intervention:** each individual subject was encouraged to identify his/her preferred music from a collection of CDs. Every week, six to ten different songs lasting a total of 30 minutes from the selected CDs were randomly played in a subject’s room. GDS-SF was administered before the first intervention, after 8 weeks, and after 12 weeks of intervention.

**Theoretical Framework:** Roy adaptation model (Roy, 2009)

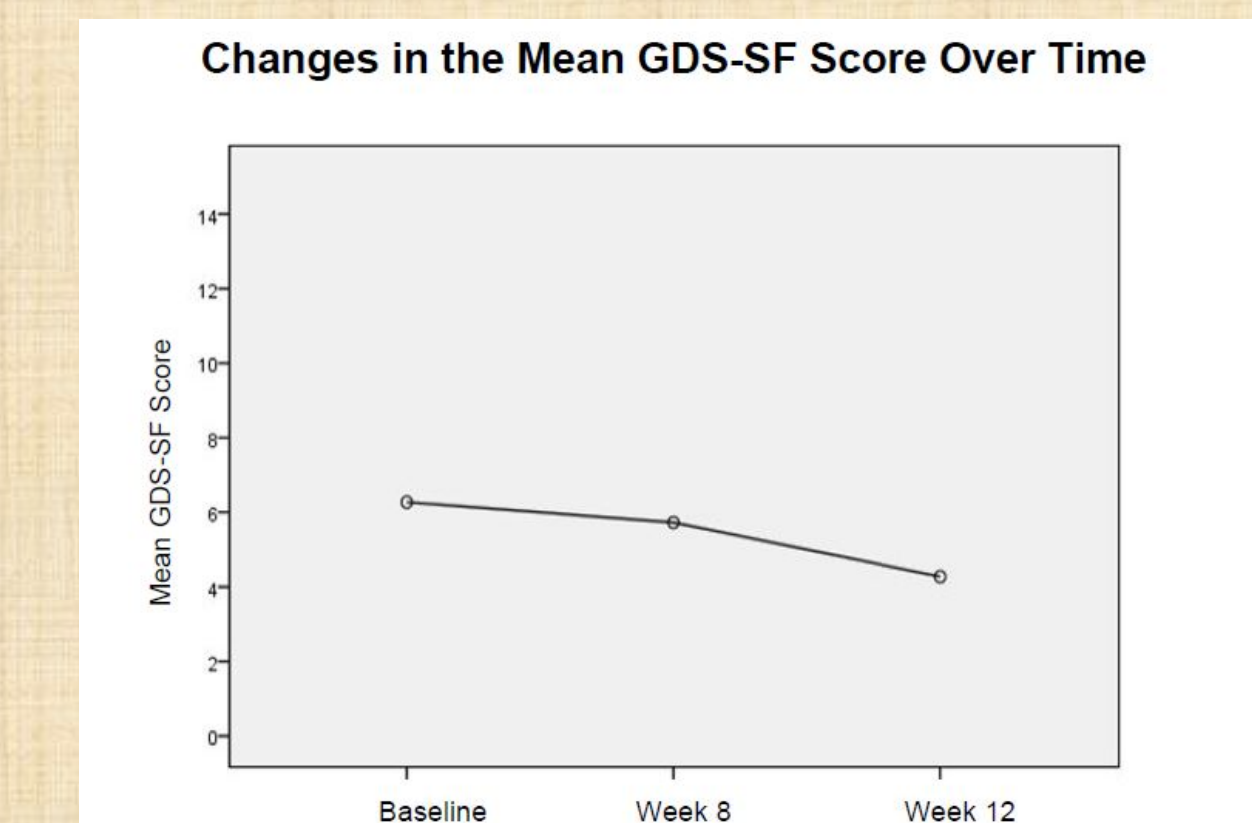
**Evidence-Based Practice Model:** model for evidence-based practice change (Rosswurm & Larrabee, 1999)

**Implementation Timeframe:** over a 12-week period

## Evaluation

**Primary Outcome:** a repeated-measures ANOVA was calculated comparing the GDS-SF scores of subjects at three different times: pre-intervention period, 8 weeks post-intervention, and 12 weeks post-intervention. A significant effect was found,  $F(2,20) = 5.808, p < .05$ . Follow-up protected  $t$  tests revealed that scores decreased significantly from baseline to 12 weeks post-intervention,  $t(10) = 3.162, p < 0.05$ , with the average baseline GDS-SF score being 6.27 ( $SD = 2.53$ ) and the average 12-week-post-intervention GDS-SF score being 4.27 ( $SD = 2.97$ ).

However, no significant difference exists between baseline scores ( $M = 6.85, SD = 2.82$ ) and that of 8 weeks post-intervention ( $M = 5.69, SD = 3.04$ ). Also, no significant difference exists between scores of 8 weeks post-intervention ( $M = 5.73, SD = 3.13$ ) and that of 12 weeks post-intervention ( $M = 4.27, SD = 2.97$ ).



**Secondary Outcome:** a Pearson correlation coefficient was calculated examining the relationship between subjects’ baseline BIMS scores and the improvement of GDS-SF scores after a 12-week period of intervention. A non-significant moderate positive correlation was found,  $r(9) = 0.567, p = 0.069$ , indicating a non-significant linear relationship between the two variables.

## Conclusion

- Delivering 30 minutes of preferred music weekly for 12 weeks via a CD player to long-term care facility residents who are 55 years old and above, have Brief Interview for Mental Status (BIMS) scores  $\geq 8$  and Geriatric Depression Scale-Short Form (GDS-SF) scores  $\geq 2$  is an effective intervention for decreasing depressive symptoms among these residents.
- Literature supports that greater improvement of depressive symptoms could be achieved by subjects with better baseline cognitive status (Chu et al., 2014). Although a moderate positive correlation was detected, the correlation is non-significant in this study possibly attributed to small sample size.
- Strengths of the EBP project: cost-effective and non-invasive intervention; minimal burden imposed on subjects and staff; positive responses and generous support from facility staff and administration
- Weaknesses of the EBP project: small sample size; only recorded music was utilized without involving live performance or music therapist-designed activities.

## Recommendation

- Multiple facilities should be employed during the implementation of future EBP projects so that a larger sample size can be obtained.
- Interventions with increased frequency as well as prolonged duration of therapeutic music should be considered in future EBP projects, and the subsequent effects on depressive-symptom improvement should be investigated.
- Future EBP project managers should continue exploring various funding in order to support more music-delivering options such as live performance and music therapist-led activities.
- The intervention of therapeutic music is cost-effective and non-invasive, and this adjunct therapy could be safely adopted by nursing or activity staff in managing depressive symptoms among residents of long-term care facilities.
- The role played by non-pharmacological interventions, with therapeutic music being one of many, on healing should not be ignored. Curriculums focusing on complimentary therapies should be integrated into future nursing programs in order to promote the awareness of holistic care.