Evaluation of an Online Dementia Training Program to Reduce Antipsychotic Medication Use in a Nursing Home

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ABSTRACT

Using the Kirkpatrick Model as a framework, the current program evaluation was performed to examine the effect of an online dementia training program on the rate of antipsychotic medication use in a nursing home. Antipsychotic medication use before program implementation was compared to use post-implementation. Run charts and a Wilcoxon analysis were used to look for trends or variances in antipsychotic medication use before and after implementation of the program. A nonrandom reduction was noted, and a statistically significant difference was noted in the percentage of residents receiving antipsychotic medications in the 6-month data prior to the training compared to the 6-month data after initial training (p = 0.026). Staff were satisfied with the training program and learning was noted, as evidenced by staff being able to list behaviors using the CARES® approach. Fully embedding the training into facility culture will need to be examined by facility administration. [*Journal of Gerontological Nursing, 49*(7), 5-8.]

Afocus of the Centers for Medicare & Medicaid Services (CMS) has been on improving the care of individuals living with dementia, especially those in nursing homes. The National Partnership to Improve Dementia Care in Nursing Homes initiative aimed to reduce the use of antipsychotic medications among residents with dementia. When the initiative began in 2011, the national rate of antipsychotic medication use among nursing home residents with dementia was 23.9% (CMS, 2021). The CMS set a goal of a 15% reduction to show improvement, and although the second quarter of 2019 showed a 40% improvement with a national average of 14.3%, improvements in antipsychotic medication use rates have varied by state. Alabama has not been as successful as other parts of the country, with a 27.3% use rate for the fourth quarter of 2011. For the second quarter of 2019, Alabama was ranked 51st nationally and had an average antipsychotic medication use rate of 19.4% (CMS, 2021).

To help nursing homes in Alabama reduce antipsychotic medication use rates among residents with dementia, the Alabama Nursing Home Association sponsored a project funded through the Civil Monies Penalty state fund from the CMS (HealthCare Interactive, 2021). The project comprises the CARES® online dementia training to train all nursing home staff to care for residents with dementia. The goals of the project were to train staff on the two programs, CARES® Dementia Basics and CARES® Dementia-Related Behaviors; increase staff knowledge of dementia and responding to challenging behaviors through the five-step CARES® approach; and reduce Alabama's antipsychotic rate from 51st to 35th in the nation (Hobday, 2021). Aggregate data are being reported to the Alabama Nursing Home Association and CMS, but a facility-level evaluation will give insight into the implementation of the program.

METHOD

The conceptual framework for the current evaluation project was the Kirkpatrick Model for program

evaluations; the four levels of the Kirkpatrick Model have been used across industries to evaluate programs, including the health care industry (Kirkpatrick & Kirkpatrick, 2016). Each level was used to evaluate the implementation of the online dementia training program. Institutional Review Board approval (EE202232) was obtained from the university before the evaluation project was implemented.

Setting

The setting for the evaluation project was a rural 158-bed nursing home in Alabama. The facility has an average occupancy rate of 95 residents. Approximately 55% of residents are noted to have some form of dementia diagnosis. This facility has had an average antipsychotic medication use rate above state and national averages. The facility had a baseline long-stay antipsychotic use rate of 20.68% for the fourth quarter of 2011 when the CMS initiative began and 27.27% for the second quarter of 2019 (Alliant Health Solutions, 2022).

Sample

The population for the evaluation project was nursing home residents with a diagnosis of dementia who were taking an antipsychotic medication. Residents with diagnoses of schizophrenia, Huntington's disease, and Tourette syndrome were excluded from the sample to represent the data more closely to the quality measures reported by CMS. A sample of 22 residents met the criteria to be included in the evaluation project.

Staff input on the program was also a part of the evaluation project. A total of 82 staff members signed a consent to participate in a survey, which was adapted with permission from a survey used in a study by Gaugler et al. (2016) evaluating the CARES® online dementia training. Staff members who completed a section of the training and were still employed by the nursing home were asked to participate and sign a consent form.

Upon signing a consent form, the staff member was given a flier with a QR code that when scanned would take them to the survey to complete. Avoidance of coercion was a high priority in this evaluation project, and by allowing staff members to sign a consent but choose not to participate in the survey, the feeling of coercion was avoided.

RESULTS

The resident sample (N = 22) was 36% male and 64% female. Residents' mean age was 74 years, ranging from 54 to 90 years. Length of stay was recorded in months; mean length of stay was 20 months and ranged from 0 to 57 months, with 0 being a newly admitted resident. Antipsychotic medications residents were taking were recorded and analyzed. Among the 22 participants, quetiapine was the most common medication, with 36% prescribed this medication, followed by risperidone at 18%.

A total of 43 surveys were accessed by staff for a 52% return rate for staff who signed consents and a 37% representation of staff still employed who had completed a section of the training. Of 43 staff, 42% were nurses and 35% were certified nursing assistants. The majority (53%) of staff had been employed at the facility for ≤5 years.

The Kirkpatrick Model, Level 1: Reaction

Reaction determines customer satisfaction with the training program. Reaction was evaluated using a survey completed by staff who had completed a section of the training (**Table 1**). An overall rank of *excellent* was given by 65% of staff participating in the survey.

The Kirkpatrick Model, Level 2: Learning

Learning determines the degree to which participants gained knowledge and skills from the training. The CARES® online dementia training has knowledge evaluations built in and knowledge checks are found through-

out the training modules. Following each four-module training program, a certification examination is available. The nursing home had 147 staff complete the CARES® Dementia Basics training, with 73 who completed the examination for certification, with an average score of 89%. The nursing home had 85 staff complete the CARES® Dementia-Related Behavior training, with 51 staff who completed the examination for certification, with an average score of 88%. The nursing home also wanted to have the training program become part of new staff orientation, thus the number of staff who completed the training in the first 7 days of hire date was evaluated. A total of 64 staff were hired from February 2021 to August 2022, of which 31 (48%) new staff completed the CARES® Dementia Basics and seven (11%) completed the CARES® Dementia-Related Behaviors.

The Kirkpatrick Model, Level 3: Behavior

Behavior determines how participants can take what they learned and put it into practice on the job. Critical behaviors are those needed to bring about desired results. With the CARES® online dementia training, the critical behaviors are those that form the mnemonic for the CARES® approach: Connect With the Person, Assess Behavior, Respond Appropriately, Evaluate What Works, and Share With Others. This behavior was evaluated using the staff survey; staff completed free dialogue questions regarding behaviors, broken down by each letter of the mnemonic. Staff were asked what CARES® approach had been used in the past 1 week. On the Connect With the Person section, staff gave 16 responses with the most popular response being talking/listening to residents. Fourteen responses were given for Assess Behavior and a common response was determining the cause for the behaviors. For the Respond Appropriately section, there were 15 responses, which included changing bath times

TABLE 1

Results of Staff Survey

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
This internet-based training program was an interesting way to learn compared to learning in a classroom, or by reading.	38	43	16	3	0
The information presented in this training program was easy to understand and follow.	54	41	3	3	0
The graphics, sound, and video in this presentation made the training more interesting than other training programs I have participated in.	59	38	3	0	0
I am more confident about my skills in helping and caring for people with dementia after completing this program.	59	38	3	0	0
I would recommend this program to other nursing home workers.	58	39	3	0	0
The videos gave me new ideas on how to interact with someone with dementia.	58	33	6	0	3
	Excellent	**Good**	**Average**	**Poor**	**Terrible**
How would you rank the CARES® online dementia training overall?	62	24	11	3	0

Note. Values are presented as percentages, which are based on the 43 surveys accessed by staff members.

and offering food. The Evaluate What Works section had 12 responses, and some mentioned seeing if the response they gave worked. The Share With Others section had 14 responses and included passing information on to the next shift.

The Kirkpatrick Model, Level 4: Results

Key stakeholders need to see results from the training. For the CARES® online dementia training, reduction of antipsychotic medication use is the desired outcome. Using the number of residents with dementia divided by the average daily census, a percentage was calculated. Data for the percentage of residents receiving antipsychotic medications from the 6 months prior to the beginning of the CARES® online dementia training and the 6 months after the initial training period were used for statistical comparison. Using IBM SPSS, a
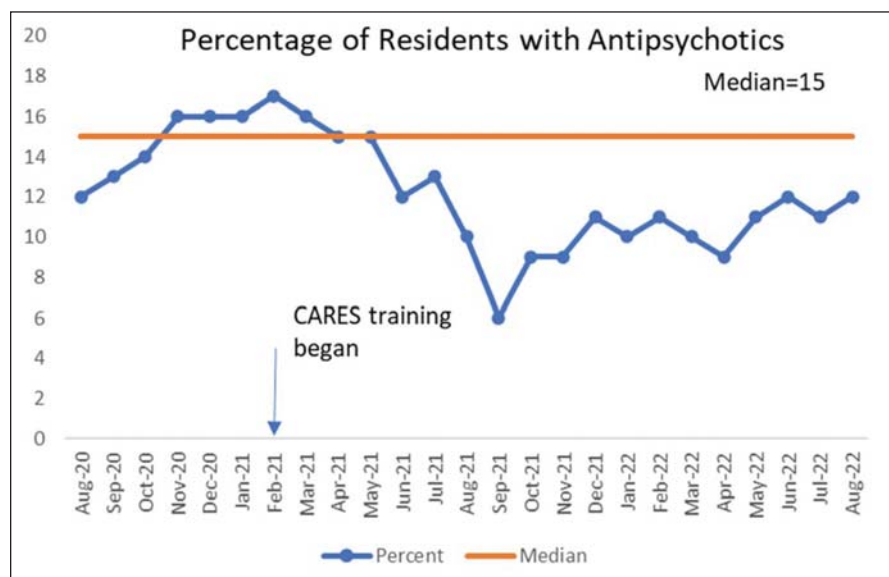

Figure 1. Run chart on antipsychotic medications.

Wilcoxon test was performed. A statistically significant difference was noted in the percentage of residents receiving antipsychotic medications 6 months prior to the training compared to 6 months after initial training ($p = 0.026$, $\alpha = 0.05$).

Percentages were also used to produce a run chart (**Figure 1**). Data for the 6 months prior to implementa-

tion of the CARES® training were used as baseline data. The median for these percentages was 15. The run chart notes the start of the CARES® training in February 2021. The run chart was analyzed to determine non-random signals of change. A shift was noted in the percentages as noted by more than six data points below the median line. No trend was noted, as five or more data points were not consecutively going up or down. Too few runs indicated non-random signals due to only one crossing of the median line.

The number of gradual dose reduction (GDR) successes, GDR failures, and new orders for antipsychotic medications were also analyzed. There was an increase in the number of GDRs ordered after implementation of the CARES® online dementia training. More successes were noted but also more failures, most likely due to the increase in the number of attempted GDRs. No decline in the number of new orders for antipsychotic medications was noted after the training period.

DISCUSSION

Staff reported overall satisfaction with the training program, with more than one half of staff who completed the training passing the certification examination. The facility has attempted to embed the training program into its new staff orientation processes; however, follow up by facility administration will need to focus on ensuring staff has completed both portions of the training.

A statistically significant reduction of antipsychotic medication use among residents with dementia was shown after the implementation of the CARES® online dementia training. Percentages have started to increase. Following the implementation of the training program, more GDR attempts were noted. There was an increase in GDR successes but also failures and new orders. Facility administration will need to develop a plan to sustain improvements in rates.

IMPLICATIONS FOR PRACTICE, POLICY, AND/OR RESEARCH

In nursing homes, the pandemic and staffing trials give rise to challenges in training staff. As a reduction in antipsychotic medication use was noted since the CARES® online dementia training was implemented, resources should be allocated appropriately. Unfortunately, the CARES® online dementia training, if purchased without the benefit of a grant, could be cost prohibitive to some facilities across the nation.

The Kirkpatrick Model for program evaluation allows the implementation of the training program to be evaluated. By only looking at the aggregate data, challenges to the full implementation of the training might be missed. Facility leadership must look at ways to fully implement the training and change the culture of the facility. Since less than one half of new staff members completed the training, efforts to improve participation will be needed.

The rate of antipsychotic medication use among residents with dementia declined after the training was implemented. More studies are needed to determine the direct correlation between training and lower rates of antipsychotic medication use. Research needs to focus on staff readiness to care for residents with dementia before and after training.

[Query #1: Please provide a short conclusion paragraph.]

REFERENCES

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