Surveillance Colonoscopy After Screening Polypectomy Reduces Colorectal Cancer Incidence in Intermediate-Risk Patients


Study Overview

Objective. To examine the heterogeneity in colorectal cancer (CRC) incidence in intermediate-risk patients and the effect of surveillance on CRC incidence.

Design. Retrospective, multicenter cohort study.

Setting and participants. Study patients underwent colonoscopy between 1 January 1990 and 21 December 2010 at 17 hospitals in the United Kingdom. Patients were eligible for the study if they had a baseline colonoscopy with a newly diagnosed intermediate-risk adenoma. Intermediate-risk adenomas (as defined by the UK guidelines) included 1 to 2 large adenomas ≥ 10 mm or 3 to 4 small adenomas < 10 mm in size. Patients with a history of prior resections, colorectal cancer, inflammatory bowel disease or a family history of CRC were excluded from the study. Patient, procedural, and polyp characteristics were assessed at baseline.

Main outcome measures. The primary outcome was incidence of CRC. Additional factors assessed included age at first polyp detection, sex, completeness of colonoscopy, preparation quality, number of adenomas, size of largest adenoma, histology, and location. Proximal polyps were defined as those proximal to the descending colon. Information regarding social history (eg, smoking status) was not available.

Results. The authors identified 253,798 patients who underwent colonoscopy between 1 January 1990 and 21 December 2010. Of those, 223,539 were excluded based on not meeting the pre-specified inclusion criteria, resulting in 30,259 eligible patients for analysis. Review of histological data confirmed intermediate-risk adenomas in 11,995 (40%) of the patients. The median age in this study was 66 years and 55% were men. Fifty-eight percent attended 1 or more follow-up surveillance visits while 42% had no follow-up surveillance colonoscopy. Those who attended more than 1 follow-up surveillance visits were younger, had a greater proportion of large adenomas (> 20 mm), or had an adenoma with high-grade dysplasia. Both groups had similar rates of villous histology (9% vs. 10%).

After a median follow-up of 7.9 years, 210 CRCs were diagnosed and 32% of patients died. In the group with no follow-up surveillance, 46% died and 2% were diagnosed with cancer. In the group who had 1 or more
follow-up colonoscopies, 21% died and 1% were diagnosed with cancer. One or 2 surveillance visits were associated with a significant reduction in CRC incidence (HR 0.57 [95% confidence interval (CI) 0.4–0.8]) and 0.51 [95% CI 0.31–0.84], respectively). Three or more surveillance exams were also associated with a similar reduction in CRC incidence (HR 0.54; CI 0.29–0.99). Characteristics associated with increased CRC incidence were older age, adenomas ≥ 20 mm, high-grade dysplasia, proximal polyps, and colonoscopies that were either incomplete or with poor preparation. The number of adenomas was not independently associated with CRC incidence.

The authors divided the cohort into higher-risk (74%) and lower-risk (26%) subgroups based on polyp and procedural characteristics. The higher-risk group included patients with baseline adenomas ≥ 20 mm, high-grade dysplasia, proximal polyps, or suboptimal evaluation. The lower-risk group included all others. CRC incidence was higher in the “higher-risk” subgroup (247 CRC per 100,000 vs. 93 CRC per 100,000). In the higher-risk group, risk of CRC decreased with more surveillance visits, a finding that was not observed in the lower-risk group. The 10-year incidence of CRC in the cohort overall was 2.7%, in the higher-risk group was 3.3% and in the lower-risk group was 1.1%. CRC incidence was significantly higher in the higher-risk subgroup compared with the general population.

Conclusion. Colonoscopy surveillance significantly reduced the incidence of CRC in intermediate-risk patients (1 to 3 large adenomas ≥ 10 mm or 3 to 4 small adenomas < 10 mm in size) who were offered surveillance at 3-year intervals. Moreover, the benefit of surveillance was particularly noted in a sub-group of patients who had large adenomas (≥ 20 mm), high-grade dysplasia, proximal polyps or poor endoscopic evaluation at the time of initial screening.

Commentary

Screening colonoscopy with removal of adenomatous polyps prevents many CRCs and has been shown to reduce mortality [1]. The results of this retrospective study suggest that patients with intermediate-risk adenomas who underwent at least 1 surveillance colonoscopy at 3-year intervals had a significant reduction in the incidence of CRC. The authors have identified a subgroup of patients at higher risk for CRC, which included those who had a suboptimal initial colonoscopy including poor bowel preparation, adenomas ≥ 20 mm, adenomas with high-grade dysplasia, or proximal adenomas. In particular, ongoing surveillance in this high-risk cohort was associated with significant reductions in CRC incidence. Conversely, those in the lower-risk group had a CRC incidence lower than that of the general population, raising some questions as to whether this group benefits from ongoing surveillance. However, definitive conclusions are difficult to make given the relatively low incidence of CRC in this group.

The risk of neoplasia in patients with colorectal adenomas has been evaluated in multiple studies. A pooled analysis by Martinez and colleagues examined over 9000 patients and noted advanced adenomas were found during follow up in 11.2% of the population, with 0.6% of the population developing invasive CRC [2]. Compared with adenomas < 5 mm, those with baseline adenomas 10–19 mm had a higher risk of advanced neoplasia (15.9% vs 7.7%; OR 2.2). Moreover, those with a baseline polyp ≥ 20 mm had a risk of advanced neoplasia at follow-up of 19.8% (OR 2.99). The results of the current investigation also suggest an increased risk of neoplasia with increased polyp size. Interestingly, the polyp size that conferred a higher risk in this study was ≥ 20 mm. The authors of this study suggest that polyps ≥ 20 mm along with the previously mentioned high-risk features may identify a subgroup within the intermediate-risk population who may benefit from close surveillance. One particularly interesting finding in this study was the identification of proximal colon polyps as a risk factor. While less well defined, previous investigations have noted a similar finding suggesting a risk of advanced neoplasia of up to 80% in patients with proximal polyps [3]. Given such, intensive surveillance may not be appropriate for all intermediate-risk patients and a more refined risk-adapted approach may be preferred.

There are some important limitations of the current study that warrant discussion. First, it should be emphasized that this study is observational in nature and therefore, definitive conclusions cannot be made despite the significant effect of surveillance colonoscopy in patients with high-risk features. In addition, the median follow-up in this study was 7.9 years and one could argue that longer-follow up is needed in order to validate the findings of this study, particularly in patients in the lower-risk cohort. Nevertheless, this study does suggest that there may be a population of patients that harbor higher-risk
features and close surveillance limited to this group may be more appropriate. Furthermore, the duration of surveillance remains an important clinical question that requires further research.

Applications for Clinical Practice

In 2012, the United States Multi-Society Task Force (MSTF) on CRC issued updated guidelines defining adenoma risk and postpolypectomy surveillance. Low-risk adenomas (1 to 2 tubular adenomas ≤ 10 mm at baseline) should have repeat surveillance colonoscopy in 5 to 10 years. Advanced adenomas (≥ 10 mm, villous histology, or high-grade dysplasia) or those with 3 to 10 adenomas at baseline should undergo first surveillance in 3 years [4]. The authors of the current study suggest that surveillance colonoscopy at 3-year intervals for patients with particularly high-risk features including those with poor bowel preparation, adenomas ≥ 20 mm, adenomas with high-grade dysplasia or proximal adenomas benefit the greatest from at least 1 surveillance colonoscopy. Those with lower-risk features may not require such rigorous follow-up; however, further work to define which high-risk cohorts should undergo close surveillance is warranted. It is vital that the primary care provider understand such guidelines in order to facilitate the appropriate follow-up.

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References


Fixed-Dose Combination Pills Enhance Adherence and Persistence to Antihypertensive Medications


Study Overview

Objective. To evaluate long-term adherence to antihypertensive therapy among patients on fixed-dose combination medication as well as antihypertensive monotherapy; and to identify demographic and clinical risk factors associated with selection of and adherence and persistence to antihypertensive medication therapy.

Design. Retrospective cohort study using claims data from a large nationwide insurer.

Setting and participants. The study population included patients older than age 18 who initiated antihypertensive medication between 1 January 2009 and 31 December 2012 and who were continually enrolled at least 180 days before and 365 days after the index date, defined as the date of initiation of antihypertensive therapy. Patients were excluded from the study if they had previously filled any antihypertensive medication at any time prior to the index date. Patients were categorized based on the number and type of antihypertensive medications (fixed-dose combination, defined as a single pill containing multiple medications; multi-pill combination, defined as 2 or more distinct antihypertensive tablets or capsules; or single therapy, defined as only 1 medication) using National Drug Codes (NDC). Study authors also measured patient baseline characteristics, such as age, region, gender, diagnoses as defined by ICD-9 codes, patient utilization characteristics (both outpatient visits and hospitalizations) and characteristics of the initiated medication, including patient copayment and number of days of medication supplied.

Main outcome measures. The primary outcome of interest was persistence, defined as having supply for any
antihypertensive medication that overlapped with the 365th day after initiation (index date), whether the initiated medication or other antihypertensive. Additional outcomes included adherence to at least 1 antihypertensive in the 12 months after initiation and refilling at least 1 antihypertensive medication. To determine adherence, the study authors calculated the proportion of days the patient had any antihypertensive available to them (proportion of days covered; PDC). PDC > 80% to at least 1 antihypertensive in the 12 months after initiation was defined as “fully adherent.” Statistical analysis utilized modified multivariable Poisson regression models and sensitivity analyses were performed. The main study comparisons focused on patients initiating fixed-dose combination therapy and monotherapy because these groups were more comparable in terms of baseline characteristics and medications initiated than the multi-pill combination group.

Main results. The study sample consisted of 484,493 patients who initiated an oral antihypertensive, including 78,958 patient initiating fixed-dose combinations, 380,269 filled a single therapy, and 22,266 who initiated multi-pill combinations. The most frequently initiated fixed-dose combination was lisinopril-hydrochlorothiazide. Lisinopril, hydrochlorothiazide, and amlodipine with the most frequently initiated monotherapy. The mean age of the study population was 47.2 years and 51.8% were women. Patients initiating multiple pill combinations were older (mean age 52.5) and tended to be sicker with more comorbidities than fixed-dose combinations or monotherapy. Patients initiating fixed-dose combination had higher prescription copayments than patients using single medication (prescription copay $14.4 versus $9.6). Patients initiating fixed-dose combinations were 9% more likely to be persistent (relative risk [RR] 1.09, 95% CI 1.08–1.10) and 13% more likely to be adherent (RR 1.13, 95% CI 1.11–1.14) than those who started on a monotherapy. Refill rates were also slightly higher among fixed-dose combination initiators (RR 1.06, 95% CI 1.05-1.07).

Conclusion. Compared with monotherapy, fixed-dose combination therapy appears to improve adherence and persistence to antihypertensive medications.

Commentary
Approximately half of US of individuals with diagnosed hypertension obtain control of their condition based on currently defined targets [1]. The most effective approach to blood pressure management has been controversial. The JNC8 [2] guidelines liberalized blood pressure targets, while recent results from the SPRINT (systolic blood pressure intervention trial) [3] indicates that lower blood pressure targets are able to prevent hypertension-related complications without significant additional risk. Given these conflicts, there is clearly ambiguity in the most effective approach to initiating antihypertensive treatment. Prior studies have shown that fewer than 50% of patients continue to take their medications just 12 months after initiation [4,5].

Fixed-dose combination therapy for blood pressure management has been cited as better for adherence and is now making its way into clinical guidelines [6–8]. However, it should be noted that fixed-dose combination therapy for blood pressure management limits dosing flexibility. Dose titration may be needed, potentially leading to additional prescriptions, thus potentially complicating the drug regimen and adding additional cost. Complicating matters further, quality metrics and reporting requirements for hypertension require primary care providers to achieve blood pressure control while also ensuring patient adherence and concomitantly avoiding side effects related to medication therapy.

This study was conducted using claims data for commercially insured patients or those with Medicare Advantage and is unlikely to be representative of the entire population. Additionally, the study authors did not have detailed clinical information about patients, limiting the ability to understand the true clinical implications. Further, patients may have initiated medications for indications other than hypertension. In addition, causality cannot be established given the retrospective observational cohort nature of this study.

Applications for Clinical Practice
Primary care physicians face substantial challenges in the treatment of hypertension, including with respect to selection of initial medication therapy. Results from this study add to the evidence base that fixed-dose combination therapy is more effective in obtaining blood pressure control than monotherapy or multiple-pill therapy. Medication adherence in primary care practice is challenging. Strategies such as fixed-dose combination therapy are reasonable to employ to improve medication adherence; however, costs must be considered.

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OUTCOMES RESEARCH IN REVIEW

References

Why Are General Practitioners Reluctant to Play a Significant Role in Managing Childhood Obesity?


Study Overview

Objective. To explore the views of general practice staff on managing childhood obesity in primary care.

Design. Qualitative study.

Setting and participants. General practices across England (n = 7303) of varying practice list size (low/medium/high) and “deprivation” level (low/medium/high, based on Index of Multiple Deprivation (IMD) score, which measures deprivation based on income, employment, health, education, barriers to services, living environment and crime) were stratified into a 3 x 3 matrix, resulting in recruitment targets of 3 to 5 practices per each of 9 recruitment strata. Practices in each strata were grouped into batches and approached in a random list order to take part in the study. Recruitment continued until the strata target was reached. Interviews were conducted by 2 researchers, either in the interviewee’s workplace or by telephone.

Main outcomes measures. The interview topic guide included 2 questions related to childhood obesity: (1) their perceptions of the barriers and enablers to general practitioners taking a more active role in childhood obesity; and (2) their views on what was needed to improve integrated local pathways to manage childhood obesity. Follow-up questions were used in response to issues raised by interviewees. All interviews were audio-taped, professionally transcribed verbatim, and checked for accuracy. Copies of transcripts were available to interviewees, although none requested to see them. Key themes were identified through thematic analysis of transcripts using an inductive approach. Initial codes were discussed and combined to form themes which were discussed until agreement was reached that these reflected the data. Results are based upon a synthesis of all the interviews.

Main results. A total of 32 practices were recruited, of which 30 identified 52 staff (56% female) to participate in semi-structured interviews: 29 general practitioners (28% female), 14 practice managers (86% female), 7 nursing staff (100% female), 1 health care assistant (female), and 1 administrative staff (female). Almost all interviewees identified childhood obesity as an increasingly important issue with potential long-term health implications. However, most did not frame it as a medical problem in itself or view its management as a general practice responsibility.

Three themes were identified: lack of contact with well children, sensitivity of the issue, and the potential impact of general practice. Identifying overweight children was challenging because well children rarely attended the...
practice. Interviewees felt that consultation time was limited and focused on addressing acute illness. Generally, raising the issue was described as sensitive. Interviewees also felt ill equipped to solve the issue because they lacked influence over the environmental, economic, and lifestyle factors underpinning obesity. They described little evidence to support general practice intervention and seemed unaware of other services. Interviewees felt their efforts should be directed towards health problems they identified as medical issues where evidence suggests they can make a difference.

Conclusions. Although general practice staff viewed childhood obesity as an important issue with the potential to impact on health outcomes, they were unconvinced that they could have a significant role in managing childhood obesity on a large scale. Participants believed schools have more contact with children and should coordinate the identification and management of overweight children. Future policy could recommend a minor role for general practice involving opportunistic identification of overweight children and referral to specialist/obesity services.

Commentary
The prevalence of childhood overweight and obesity continues to rise in the United States and worldwide with extensive economic, physical, and psychosocial consequences [1–6]. Lifestyle interventions that target obesity-related behaviors including physical activity, sedentary behavior, and diet, are considered the therapy of choice [7–10]. Indeed, the US Preventive Services Task Force recommends that clinicians screen for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status [11]. Similar recommendations can be seen in other national guidelines regarding the management of childhood obesity [12].

Beyond screening and referral, some have outlined more specific opportunities for health professionals to play a more significant role in confronting child obesity, particularly among general practitioners and primary care providers [13–15]. In addition, several reviews have looked at the expanding role of primary care in the prevention and treatment of childhood obesity [16,17]. However, it remains unclear whether provider perspectives about their role in addressing childhood obesity align with such guidelines and suggestions. In fact, several studies have discussed barriers to weight management and obesity counseling among adults by physicians, which include lack of training, time, and perceived ineffectiveness of their own efforts [18–20]. This study adds to the literature by qualitatively assessing perspectives of general practice staff from a variety of practices regarding their role in addressing childhood obesity.

In qualitative research, typically small samples require careful consideration of the representativeness of participants in terms of characteristics and relevance to the wider population. As the authors highlight, a key strength of this study is that staff from a large number of practices in different geographical areas across England were recruited and broadly represented general practices in terms of practice list size and deprivation. This may contribute to greater likelihood of generalizability compared to similar studies that are limited to specific states in a country or small geographic areas. Additional strengths of this study include the use of a specific framework to guide analysis, 2 independent coders to analyze transcripts, and a brief discussion of how the researcher, through the structure of the interview, may have introduced bias to the results. However, the authors did not include whether any outlying or negative/deviant cases were presented that did not fit with discussed themes or if there were any differences in findings by gender or by years since qualified to practice. Additionally, the authors did not specify if results were confirmed or validated by their study participants to increase reliability and trustworthiness of analysis and interpretation.

Applications for Clinical Practice
Although the authors highlight that their findings suggest that policies expanding the role for general practitioners in prevention, identification, and management of childhood obesity at a population-level are unlikely to be successful, findings may instead highlight specific barriers to target and overcome in order to expand the role for general practitioners. Even though contact with well children may be limited, standard practices to incorporate brief counseling could contribute to a shift in practice and patient expectations of what is discussed during visits. Increased training and awareness of resources and innovative technologies that can assist patients with addressing obesity-related environmental, economic, and lifestyle factors can also be incorporated into medical education and professional development. In addition, practices can partner with community-based programs.
and organizations implementing childhood obesity interventions to expand referral options. General practitioners and primary care providers remain an important source of health information and expertise, and thus should play a key role in supporting broader initiatives to address childhood obesity.

—Katrina F. Mateo, MPH

References

1. WHO | Facts and figures on childhood obesity. 2014.
Implementation of a Communication Training Program Is Associated with Reduction of Antipsychotic Medication Use in Nursing Homes


Study Overview
Objective. To evaluate the effectiveness of OASIS, a large-scale, statewide communication training program, on the reduction of antipsychotic use in nursing homes (NHs).

Design. Quasi-experimental longitudinal study with external controls.

Setting and participants. The participants were residents living in NHs between 1 March 2011 and 31 August 2013. The intervention group consisted of NHs in Massachusetts that were enrolled in the OASIS intervention and the control group consisted of NHs in Massachusetts and New York. The Centers for Medicare & Medicaid Services Minimum Data Set (MDS) 3.0 data was analyzed to determine medication use and behavior of residents of NHs. Residents of these NHs were excluded if they had a US Food and Drug Administration (FDA)-approved indication for antipsychotic use (eg, schizophrenia); were short-term residents (length of stay < 90 days); or had missing data on psychopharmacological medication use or behavior.

Intervention. The OASIS is an educational program that targeted both direct care and non-direct care staff in NHs to assist them in meeting the needs and challenges of caring for long-term care residents. Utilizing a train-the-trainer model, OASIS program coordinators and champions from each intervention NH participated in an 8-hour in-person training session that focused on enhancing communication skills between NH staff and residents with cognitive impairment. These trainers subsequently instructed the OASIS program to staff at their respective NHs using a team-based care approach. Additional support of the OASIS educational program, such as telephone support, 12 webinars, 2 regional seminars, and 2 booster sessions, were provided to participating NHs.

Main outcome measures. The main outcome measure was facility-level prevalence of antipsychotic use in long-term NH residents captured by MDS in the 7 days preceding the MDS assessment. The secondary outcome measures were facility-level quarterly prevalence of psychotropic medications that may have been substituted for antipsychotic medications (ie, anxiolytics, antidepressants, and hypnotics) and behavioral disturbances (ie, physically abusive behavior, verbally abusive behavior, and rejecting care). All secondary outcomes were dichotomized in the 7 days preceding the MDS assessment and aggregated at the facility level for each quarter.

The analysis utilized an interrupted time series model of facility-level prevalence of antipsychotic medication use, other psychotropic medication use, and behavioral disturbances to evaluate the OASIS intervention’s effectiveness in participating facilities compared with control NHs. This methodology allowed the assessment of changes in the trend of antipsychotic use after the OASIS intervention controlling for historical trends. Data from the 18-month pre-intervention (baseline) period was compared with that of a 3-month training phase, a 6-month implementation phase, and a 3-month maintenance phase.

Main results. 93 NHs received OASIS intervention (27 with high prevalence of antipsychotic use) while 831 NHs did not (non-intervention control). The intervention NHs had a higher prevalence of antipsychotic use before OASIS training (baseline period) than the control NHs (34.1% vs. 22.7%, \( P < 0.001 \)). The intervention NHs compared to controls were smaller in size (122 beds [interquartile range (IQR), 88–152 beds] vs. 140 beds; [IQR, 104–200 beds]; \( P < 0.001 \)), more likely to be for profit (77.4% vs. 62.0%,
had corporate ownership (93.5% vs. 74.6%, \(P = 0.009\)), had corporate ownership (93.5% vs. 74.6%, \(P < 0.001\), and provided resident-only councils (78.5% vs. 52.9%, \(P < 0.001\). The intervention NHs had higher registered nurse (RN) staffing hours per resident (0.8 vs. 0.7; \(P = 0.01\) but lower certified nursing assistant (CNA) hours per resident (2.3 vs. 2.4; \(P = 0.04\)) than control NHs. There was no difference in licensed practical nurse hours per resident between groups.

All 93 intervention NHs completed the 8-hour in-person training session and attended an average of 6.5 (range, 0–12) subsequent support webinars. Thirteen NHs (14.0%) attended no regional seminars, 32 (34.4%) attended one, and 48 (51.6%) attended both. Four NHs (4.3%) attended one booster session, and 13 (14.0%) attended both. The NH staff most often trained in the OASIS training program were the directors of nursing, RNs, CNAs, and activities personnel. Support staff including housekeeping and dietary were trained in about half of the reporting intervention NHs, while physicians and nurse practitioners participated infrequently. Concurrent training programs in dementia care (Hand-in-Hand, Alzheimer Association training, MassPRO dementia care training) were implemented in 67.2% of intervention NHs.

In the intervention NHs, the prevalence of antipsychotic prescribing decreased from 34.1% at baseline to 26.5% at the study end (7.6% absolute reduction, 22.3% relative reduction). In comparison, the prevalence of antipsychotic prescribing in control NHs decreased from 22.7% to 18.8% over the same period (3.9% absolute reduction, 17.2% relative reduction). During the OASIS implementation phase, the intervention NHs had a reduction in prevalence of antipsychotic use (−1.20% [95% confidence interval (CI), −1.85% to −0.09% per quarter]) greater than that of the control NHs (−0.23% [95% CI, −0.47% to 0.01% per quarter]), resulting in a net OASIS influence of −0.97% (95% CI, −1.85% to −0.09% per quarter; \(P = 0.03\)). The antipsychotic use reduction observed in the implementation phase was not sustained in the maintenance phase (difference of 0.93%; 95% CI, −0.66% to 2.54%; \(P = 0.48\)). No increases in other psychotropic medication use (anxiolytics, antidepressants, hypnotics) or behavioral disturbances (physically abusive behavior, verbally abusive behavior, and rejecting care) were observed during the OASIS training and implementation phases.

Conclusion. The OASIS communication training program reduced the prevalence of antipsychotic use in NHs during its implementation phase, but its effect was not sustained in the subsequent maintenance phase. The use of other psychotropic medications and behavior disturbances did not increase during the implementation of OASIS program. The findings from this study provided further support for utilizing nonpharmacologic programs to treat behavioral and psychological symptoms of dementia in older adults who reside in NHs.

Commentary
The use of both conventional and atypical antipsychotic medications is associated with a dose-related, approximately 2-fold increased risk of sudden cardiac death in older adults [1,2]. In 2006, the FDA issued a public health advisory stating that both conventional and atypical antipsychotic medications are associated with an increased risk of mortality in elderly patients treated for dementia-related psychosis. Despite this black box warning and growing recognition that antipsychotic medications are not indicated for the treatment of dementia-related psychosis, the off-label use of antipsychotic medications to treat behavioral and psychological symptoms of dementia in older adults remains a common practice in nursing homes [3]. Thus, there is an urgent need to assess and develop effective interventions that reduce the practice of antipsychotic medication prescribing in long-term care.

To that effect, the study reported by Tjia et al appropriately investigated the impact of the OASIS communication training program, a nonpharmacologic intervention, on the reduction of antipsychotic use in NHs.

This study was well designed and had a number of strengths. It utilized an interrupted time series model, one of the strongest quasi-experimental approaches due to its robustness to threats of internal validity, for evaluating longitudinal effects of an intervention intended to improve the quality of medication use. Moreover, this study included a large sample size and comparison facilities from the same geographical areas (NHs in Massachusetts and New York State) that served as external controls. Several potential weaknesses of the study were identified. Because facility-level aggregate data from NHs were used for analysis, individual level (long-term care resident) characteristics were not accounted for in the analysis. In addition, while the post-OASIS intervention questionnaire response rate was 65.6% (61 of 93 intervention NHs), a higher response rate would provide better characterization of NH staff that participated in OASIS program training, program completion rate, and
a more complete representation of competing dementia care training programs concurrently implemented in these NHs.

Several studies, most utilizing various provider education methods, had explored whether these interventions could curb antipsychotic use in NHs with limited success. The largest successful intervention was reported by Meador et al [4], where a focused provider education program facilitated a relative reduction in antipsychotic medication use of 23% compared to control NHs. However, the implementation of this specific program was time- and resource-intensive, requiring geropsychiatry evaluation to all physicians (45 to 60 min), nurse-educator in-service programs for NH staff (5 to 6 one-hr sessions), management specialist consultation to NH administrators (4 hr), and evening meeting for the families of NH residents. The current study by Tjia et al, the largest study to date conducted in the context of competing dementia care training programs and increased awareness of the danger of antipsychotic use in the elderly, similarly showed a meaningful reduction in antipsychotic medication use in NHs that received the OASIS communication training program. The OASIS program appears to be less resource-intensive than the provider education program modeled by Meador et al, and its train-the-trainer model is likely more adaptable to meet the limitations (eg, low staffing and staff turnover) inherent in NHs. The beneficial effect of the OASIS program on reduction of antipsychotic medication prescribing was observed despite low participation by prescribers (11.5% of physicians and 11.5% of nurse practitioners). Although it is unclear why this was observed, this finding is intriguing in that a communication training program that reframes challenging behavior of NH residents with cognitive impairment as (1) communication of unmet needs, (2) train staff to anticipate resident needs, and (3) integrate resident strengths into daily care plans can alter provider prescription behavior. The implication of this is that provider practice in managing behavioral and psychological symptoms of dementia can be improved by optimizing communication training in NH staff. Taken together, this study adds to evidence in favor of utilizing nonpharmacologic interventions to reduce antipsychotic use in long-term care.

Applications for Clinical Practice

OASIS, a communication training program for NH staff, reduces antipsychotic medication use in NHs during its implementation phase. Future studies need to investigate pragmatic methods to sustain the beneficial effect of OASIS after its implementation phase.

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References