Cochrane for Clinicians

Putting Evidence into Practice

Written Action Plans for Self-Management of COPD Exacerbations

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Clinical Question

Do written action plans for self-management of chronic obstructive pulmonary disease (COPD) reduce the severity of acute exacerbations?

Evidence-Based Answer

Written self-management plans, especially those that include guidance on smoking cessation, increase health-related quality of life in patients with COPD. They also decrease the need for respiratory-related hospital admissions among patients with high or low baseline risk.[1] (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers

Self-management plans for patients with COPD have been shown to decrease respiratory- and all-cause–related hospitalizations and improve dyspnea and health-related quality of life.[2] A recent recommendation suggests that COPD self-management should motivate, engage, and support patients to positively adapt their behaviors and develop skills to better manage their disease.[3] The authors of this Cochrane review sought to demonstrate whether written management plans for COPD exacerbations would positively affect health-related quality of life and decrease the need for acute hospitalizations.[1]

This Cochrane review included 22 trials and 3,854 patients with COPD.[1] Follow-up ranged from two to 24 months. The authors looked for studies in which the interventions included a written action plan, defined as an agreed strategy with actions to be initiated by a patient with COPD when symptoms deteriorate. Health-related quality of life was measured using the validated St. George's Respiratory Questionnaire (SGRQ)[4]; normal values on this assessment vary with sex and age, and lower scores represent better health-related quality of life. A change of four points is considered the minimal clinically important difference.

Patients who used a written action plan for COPD exacerbations had lower scores on the SGRQ compared with those receiving usual care (mean difference = 2.69 points; 95% confidence interval [CI], 0.9 to 4.49). This review also revealed a decreased need for respiratory-related hospital admissions among patients using written action plans, whether their baseline risk was high (number needed to treat [NNT] to prevent one admission in one year = 12; 95% CI, 7 to 69) or low (NNT to prevent one admission in one year = 17; 95% CI, 11 to 93). No differences were noted in the number of emergency department or outpatient clinic visits, or in dyspnea scores between patients who received a written action plan and those who received usual care.

Subgroup analysis showed that patients with COPD who participated in programs that included a written smoking cessation plan had an improvement in SGRQ scores of 4.98 points (95% CI, 2.78 to 7.17), whereas those who were involved in programs that did not include written smoking cessation plans had an improvement of only 1.33 points (95% CI, 0.27 to 2.94). Although the clinical significance is uncertain, very-low-quality evidence showed a small increase in respiratory-related mortality rates among patients receiving written intervention. The authors of this review posit that this result should be interpreted with caution, at the very least because a comparison of the all-cause

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CME **This clinical content** conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 307.

SUMMARY TABLE: SELF-MANAGEMENT OF COPD EXACERBATIONS

Outcomes	Probable outcome with written self-management plan	Probable outcome with usual care	NNT or NNH (95% CI)	Number of participants (number of studies)	Quality of evidence
Respiratory-related hospital admissions (follow-up: 6 to 24 months)	238 per 1,000	312 per 1,000	13 (8 to 71)	3,157 (14)	Moderate
All-cause hospital admissions (follow-up: 6 to 12 months)	356 per 1,000	427 per 1,000	NA*	2,467 (10)	Moderate
All-cause mortality (follow-up: 3 to 24 months)	107 per 1,000	102 per 1,000	NA*	3,296 (16)	Moderate
Dyspnea score† (follow-up: 12 months)	2.4 to 2.6	1.0 to 2.8	NA*	217 (3)	Low
Respiratory-related mortality (follow-up: 3 to 24 months)	89 per 1,000	48 per 1,000	24 (11 to 91)	1,219 (7)	Very low

Note: The numbers needed to treat and numbers needed to harm listed in this table were calculated by the author based on raw data provided in the original Cochrane review.

CI = confidence interval; COPD = chronic obstructive pulmonary disease; NA = not applicable; NNH = number needed to harm; NNT = number needed to treat.

*—No statistical difference in outcomes.
†—Using Medical Research Council Dyspnoea Scale from 0 to 4.

mortality rates between the two groups did not reveal a difference.

Current guidelines suggest that patients who have COPD receive a written action plan and participate in case management to prevent and manage exacerbations.[5] Family physicians should consider using print copies of individualized plans to review with their patients who have COPD.

The practice recommendations in this activity are available at http://www.cochrane.org/CD011682.

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Effect of Pacifier Use on Duration of Breastfeeding

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Clinical Question

Does unrestricted pacifier use in healthy, full-term, exclusively breastfed infants decrease the duration of breastfeeding?

Evidence-Based Answer

In healthy, full-term, breastfeeding infants, there is moderate evidence that unrestricted pacifier use, started at birth or after lactation has been established, does not decrease the likelihood of continued exclusive or partial breastfeeding through four months of age.[1] (Strength of Recommendation: A, based on two quality randomized controlled trials [RCTs] leading to Cochrane opinion.)

Practice Pointers

The United States has seen a rise in infant breastfeeding rates over the past two decades, likely because of the growing body of evidence that supports improved health outcomes for both mother and baby. The percentage of infants who have ever breastfed increased from 71% in 2002 to 83% in 2014.[2] To encourage successful breastfeeding, many hospital systems ascribe to baby-friendly behavior practices based on the World Health Organization's (WHO's) *Ten Steps to Successful Breastfeeding*.[3]

One behavior postulated to interfere with the establishment of successful breastfeeding is pacifier use during the first few weeks of life. Step 9 of the WHO's 10 steps instructs parents to refrain from giving pacifiers or artificial nipples to breastfeeding infants; this is based on four observational studies published before 1998.[3] One recent systematic review identified 46 relevant studies (two clinical trials, 20 longitudinal studies, and 24 cross-sectional studies).[4] Meta-analysis of the largely observational data found a consistent association between pacifier use and risk of exclusive breastfeeding disruption. This Cochrane review sought to evaluate whether pacifier use in healthy breastfeeding infants affects multiple breastfeeding outcomes, including the duration (i.e., total months) of breastfeeding.[1]

Two RCTs with 1,302 infants found no apparent difference between the pacifier and control groups in the proportion of infants who were exclusively or partially breastfeeding at three and four months of age.[5,6] The included studies did not report outcomes for total duration of breastfeeding. Additionally, this review did not assess secondary outcomes of breastfeeding difficulties (pain, mastitis, cracked nipples, breast engorgement), infant health, or maternal satisfaction or confidence in parenting.[1]

Breastfeeding is endorsed by many professional societies, including the American Academy of Family Physicians (AAFP), as the preferred method of feeding infants during the first six to 12 months of life.[7] Even more specifically, the AAFP breastfeeding position paper states that physicians should "Educate mothers about the risks of unnecessary supplementation and pacifier use." The AAFP recommendation is based on the observational studies body of literature, and it falls contrary to the findings and recommendation in this Cochrane review. Further research could influence confidence about the effect of pacifier use and help inform decisions for infants beyond four months of age. Health care professionals should support breastfeeding mothers in making decisions regarding pacifier use based on infant needs and maternal preference.

The practice recommendations in this activity are available at http://www.cochrane.org/CD007202.

The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Department of Defense, the U.S. Army, the U.S. Air Force, or the Uniformed Services University of the Health Sciences.

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