Published in final edited form as:

J Hosp Med. 2015 November ; 10(11): 724–730. doi:10.1002/jhm.2422.

Hospitalist Attitudes towards the Assessment and Management of Dyspnea in Patients with Acute Cardiopulmonary Diseases

Mihaela S. Stefan, MD^{1,2,3}, David Au, MD, MS⁴, Richard Mularski, MD, MCR, MSHS⁵, Jerry Krishnan, MD, PhD⁶, Eduard T. Naureckas, MD⁷, Shannon Carson, MD, MS⁸, Patrick Godwin, MD⁶, Aruna Priya, MS¹, Penelope Pekow, PhD^{1,9}, and Peter K. Lindenauer, MD, MSc^{1,2,3}

¹Center for Quality of Care Research, Baystate Medical Center, Springfield, MA, USA

²Division of General Internal Medicine, Baystate Medical Center, Springfield, MA, USA

³Tufts Clinical and Translational Science Institute and Tufts University School of Medicine, Boston, MA, USA

⁴Pulmonary Division, Harborview Medical Center University of Washington Medicine, Seattle, WA, USA

⁵Center for Health Research & Department of Pulmonary and Critical Care Medicine, Kaiser Permanente Northwest, Portland, OR, USA

⁶University of Illinois – Jesse Brown VAMC, Chicago, IL, USA

⁷Division of Pulmonary and Critical Care, University of Chicago Medical Center, Chicago, IL, USA

⁸Division of Pulmonary and Critical Care Medicine, University of North Carolina School of Medicine, Chapel Hill, NC, USA

⁹University of Massachusetts Amherst, School of Public Health Sciences, Amherst, MA, USA

Abstract

Background—Dyspnea is a common symptom in patients hospitalized with acute cardiopulmonary diseases. Routine assessment of dyspnea severity is recommended by clinical guidelines based on the evidence that patients are not treated consistently for dyspnea relief.

Objective—To evaluate attitudes and beliefs of hospitalists regarding the assessment and management of dyspnea.

Design—Cross-sectional survey

Settings—Nine hospitals in the United States.

Measurements—Survey questions assessed the following domains regarding dyspnea: importance in clinical care; potential benefits and challenges of implementing a standardized

Corresponding Author: Mihaela S. Stefan, MD, Department of Medicine, Baystate Medical Center, 759 Chestnut Street, 2nd Floor, Springfield, MA 01199, Mihaela.Stefan@baystatehealth.org.

Conflict of Interest

Authors report no conflict of interest.

assessment; current approaches to assessment and how awareness of severity affects management. A five-point Likert scale was used to assess the respondent's level of agreement; strongly agree and agree were combined into a single category.

Results—Of the 255 hospitalists invited to participate, 69.8% completed the survey; 77.0% agreed that dyspnea relief is an important goal when treating patients with cardiopulmonary conditions. Approximately 90% of respondents stated that awareness of dyspnea severity influences their decision to intensify treatment, to pursue additional diagnostic testing and the timing of discharge. 61.0% agreed that standardized assessment of dyspnea should be part of the vital signs and 64.6% that awareness of dyspnea severity influences their decision to prescribe opioids. Hospitalists who appreciated the importance of dyspnea in clinical practice were more likely to support the implementation of a standardized scale.

Conclusions—Most hospitalists believe that routine assessment of dyspnea severity would enhance their clinical decision-making and patient care. Measurement and documentation of dyspnea severity may represent an opportunity to improve dyspnea management.

Keywords

Dyspnea; Hospitalists; Symptom Assessment

Introduction

Dyspnea, defined as a “subjective experience of breathing discomfort,”¹ is the 7th most frequent reason adult patients present to the emergency room and the most frequent cause for emergency room visits in patients 65 years or older.² Moreover, dyspnea is experienced by 49% of patients hospitalized with a medical condition^{3,4,5} and up to 70% by patients who are seriously ill.^{5,6}

Based on evidence that patients are not treated consistently and effectively for relief of their shortness of breath, the American College of Chest Physicians (ACCP) statement on dyspnea management in patients with advanced lung or heart disease recommended that patients should be asked to rate their dyspnea and the rating should be routinely documented in the medical record to guide management.⁶ Although clinicians may question the utility of routine assessment of dyspnea using a standardized scale, studies have found that the prevalence of dyspnea reported from chart review is much lower than when patients are directly interviewed.⁸ This may be the result of under-recognition of dyspnea or poor documentation by physicians or that patients may not communicate their symptoms unless the physician specifically asks. As is the case with pain, routine assessment of dyspnea severity could lead to improved clinical management and greater patient-centered care. However, unlike the case of pain, regulatory bodies such as the Joint Commission for Accreditation of Healthcare Organization, do not require routine dyspnea assessment.¹²

Currently there are more than 40,000 hospitalists in the United States and the vast majority of hospitals with >200 beds have a hospitalist group.¹³ Hospitalists care for over 60% of inpatients¹⁴ and play a major role in the management of patients with acute cardiopulmonary diseases. If standardized approaches for the assessment and documentation

of dyspnea are to be implemented, hospitalists would be a key stakeholder group for utilizing enhanced clinical information about dyspnea. Therefore, we evaluated attitudes and practices of hospitalists in regard to the assessment and management of dyspnea, including the potential benefits and challenges related to the implementation of standardized assessment. We hypothesized that hospitalists would believe that a dyspnea scale for assessment of severity could improve their management of patients with cardiovascular diseases. Further, we hypothesized that physicians who agreed with the general statement that dyspnea is an important clinical problem would be more likely to believe that routine dyspnea assessment would be valuable.

Methods

Study sample

We invited 255 attending hospitalists from nine geographically and structurally diverse hospitals to complete a survey about the assessment and management of dyspnea. The nine hospitals represent range of practice environments including four academic medical centers, two community teaching and three nonteaching hospitals, one Veteran Administrations hospitals and two staff model HMOs. (eTable 1) The survey was distributed online using REDCap (Research Electronic Data Capture), a secure web-based interface application.¹⁵ A co-investigator who was a pulmonary-critical care physician at each site sent an initial email to their hospitalist groups that alerted them to expect a survey from the principal investigator. This notification was subsequently followed by an email invitation containing an informational cover letter and a link to the online survey. The cover letter stated that the completed surveys would not be stored at the local sites and that all the analyzed data would be de-identified. Non-respondents were sent reminders at two and four weeks after the initial mailing. A \$25 electronic gift card was provided as a gesture of appreciation for their time. The survey was conducted between September and December, 2013.

The study was approved by the Baystate Health Institutional Review Board, Springfield, MA with a waiver for written informed consent.

Questionnaire

We developed a 17-item instrument based on a review of the dyspnea literature and a prior ACCP survey.⁹ Questions were piloted with four hospitalists at a single institution and modified to improve face validity and clarity. The full survey is presented in eSupplement 1.

Hospitalists were asked to consider the care of patients admitted for acute cardiopulmonary disease, including heart failure, COPD and pneumonia. A series of five-point Likert scales were used to assess the respondents level of agreement with statements related to the following domains: the importance of dyspnea in clinical care, the potential benefits and challenges of routine dyspnea assessment (statements such as “having a standardized assessment of dyspnea severity would be helpful in management of patients with cardiopulmonary diseases”, “dyspnea assessment by a scale should be part of the vital signs for patients with cardiopulmonary diseases”), and management of dyspnea (questions regarding the use of opioids and other non-pharmacological therapies). Additional questions

were asked about current assessment practices (questions such as: “how often do you assess severity of dyspnea”, “what is your approach in assessing dyspnea” with options of choosing a categorical or numerical scale), if dyspnea is assessed in their institution by nurses and how often, and the influence of dyspnea severity assessment on their management. The survey had one question which solicited comments from the participants: ‘If you don’t think that it would be useful to have a standardized dyspnea assessment, please tell us why’.

Data analysis

Responses to survey questions were summarized via counts and percentages in each response category. Adopting the methodology used in the ACCP consensus statement, strongly agree and somewhat agree were combined into a single category of agreement. We also presented percentage of responses in the two levels of agreement (strongly agree and somewhat agree) for each question in a bar graph.

Associations between tertiles of physicians’ time in practice and attitude toward dyspnea were evaluated via Chi-square or Fisher’s exact test.

To examine how answers to the first two questions which assessed attitude towards importance of dyspnea in clinical care affect answers to the remaining questions, we grouped respondents in three categories (strongly agree, agree to these questions vs. do not agree) and tested the associations using Chi-square or Fisher’s exact test.

All analyses were performed using SAS (version 9.3, SAS institute, Inc., Cary, NC) and STATA (StataCorp. 2014. Stata Statistical Software: Release 13.1. College Station, TX: StataCorp, LP).

Results

Overall 178 (69.8%) of 255 identified hospitalists completed the survey and all 9 participating hospitals had a response rate greater than 50%. The median number of years in practice was six, (Range: 0 – 38 years). A majority (77.5%) of respondents agreed with the statement that dyspnea is one of the major symptoms of patients with cardiopulmonary disease and that its treatment is central to the management of these patients (77.0%). (Figure 1)

Attitude and practices surrounding dyspnea assessment

When asked about their current assessment of dyspnea, a majority (84.3%) of the hospitalists stated that they assess dyspnea on a daily basis; two thirds indicated that they use a categorical scale (i.e. no shortness of breath, improved or worsened compared with a prior date) and one third that they ask whether the patient is dyspneic or not. Fifty-six percent of hospitalists stated that dyspnea is regularly assessed by nurses in their hospital.

The majority of respondents agreed (78.6%, 23.0% strongly and 55.6% somewhat agree) that standardized assessment of dyspnea severity using a numeric scale and serial measurements as part of the vital signs, would benefit the management of patients with cardiopulmonary diseases. Furthermore, a 79.5% (33.0% strongly, 46.6% somewhat agree),

reported that using a dyspnea scale that included information to further characterize the patient-reported experience, such as the level of distress associated with dyspnea would be helpful in management.

Approximately 90% of the hospitalists indicated that awareness of dyspnea severity has an influence on clinical decision making, including whether to intensify treatment of underlying conditions, to pursue additional diagnostic testing, or to modify discharge timing. Additionally, two thirds of hospitalists agreed that awareness of dyspnea severity influences their decision to add opioids while only one third prescribed non-pharmacologic symptom oriented treatment. (Table 1)

Forty-two percent of the respondents agreed that patients are able to rate their dyspnea on a scale (2.3% strongly agree and 40.0% agree), and 73.0% indicated that patient experience of dyspnea should guide management independent of physiologic measures such as respiratory rate and oxygen saturation. (Figure 1)

Several potential barriers were identified among the 18 participants who did not think that a standardized assessment of dyspnea would be beneficial, including concerns that 1) dyspnea severity scale is too subjective and numerical scales are not useful for a subjective symptom (19.0%); 2) patients may overrate their symptom or will not be able to rate their dyspnea using a scale (31.0%); or 3) categorical description is sufficient (31.0%).

Practices in dyspnea management

Seventy-nine percent of respondents agreed with the statement that judicious use of opioids can provide relief of dyspnea (26.1% strongly, 52.8% agreed), and 88.7% hospitalists identified the risk of respiratory depression as one of the barriers for the limited use of opioids. The majority of physicians (60–80%) considered non-pharmacologic therapies effective for symptomatic treatment of dyspnea, including in the order of agreement: noninvasive ventilation, relaxation techniques, cool air/fan, use of pursed lip breathing, and oxygen for non-hypoxemic patients. (Table 1)

Physician experience and attitudes towards dyspnea management

When we stratified hospitalists in tertiles of median years of time in practice (median and range: 2(0,4), 6(5,8) and 15 (9,38), we did not find an association with any of the responses to the questions.

Attitude regarding the importance of dyspnea in clinical care and responses to subsequent questions

Respondents who strongly agree or agree that dyspnea is the primary presenting symptom in patients with cardiovascular condition and that dyspnea relief is central to the management of these patients were more likely to believe that patients would like to be asked about their dyspnea (61.2% vs 30.2% vs 29.7%). They also had a more positive attitude about the usefulness of a standardized assessment of dyspnea and the inclusion of the assessment of dyspnea by a scale in the vital signs. (Table 2)

Discussion

In this survey of 178 hospitalists from a diverse group of nine US hospitals, we found that most indicate that severity of dyspnea has a profound influence on their clinical practice (including their decision whether to intensify treatments such as diuretics or bronchodilators, to pursue additional diagnostic testing, add opioids or other non-pharmacological treatments) and ultimately their decision regarding the timing of hospital discharge. More importantly, while less than half reported experience with standardized assessment of dyspnea severity, most stated that such data would be very useful in their practice.

Despite being a highly prevalent symptom in diverse patient populations, several studies have shown that documentation of dyspnea is sporadic and evaluation of dyspnea quality of care is not routinely performed.^{17, 18, 19} Statements from a number of professional societies including the ACCP, the American Thoracic Society and the Canadian Respiratory Society recommend that dyspnea management should rely on patient reporting and that dyspnea severity should be recorded.^{1,9,11} Assessment is an essential step to guide interventions; however simply asking about the presence or absence of dyspnea is insufficient. Several rating scales have been validated and might be implementable in the acute care setting, including the Numerical Rating Scale and the Visual Assessment Scale.^{20,21, 22,23} Our survey shows that standardized documentation of dyspnea severity in clinical practice is uncommon. However, most hospitalists in our study believed that assessment of dyspnea, using a standardized scale would positively impact their management of patients with cardiopulmonary disease.

There are a number of potential benefits of routine assessment of dyspnea in hospitalized patients. Implementation of a standardized approach to dyspnea measurement would result in more uniform assessment and documentation practices and in turn greater awareness among members of the patient-care team. Though not sufficient to improve care, measurement is necessary because physicians do not always recognize the severity of patients' dyspnea or may not recognize its presence. A retrospective study which assessed the prevalence of symptoms in 410 ambulatory patients showed that one quarter of patients had dyspnea but only half of them told their doctor about it.^{24,20} Two other studies of patients with cancer diagnoses found that 30 – 70% of patients had dyspnea but the symptom was recognized in only half of them; even when recognized, dyspnea severity was frequently underrated by physicians.^{21, 22} Importantly, underestimation appears to correlate with underutilization of symptomatic management of dyspnea.²³

While the results of our survey are encouraging, they highlight a number of potential barriers and misconceptions among hospitalists. For example, although dyspnea can be characterized only by the person experiencing it, only 42% of our survey respondents believed that patients are able to rate their dyspnea intensity on a scale. Some of these responses may be influenced by the fact that dyspnea scales are not currently available to patients under their care. Another explanation is that similar to the case for pain, some hospitalists may believe that patients will exaggerate dyspnea severity. Almost one third of the respondents stated that objective measures such as respiratory rate or oxygen saturation are more important than a patient's experience of dyspnea in guiding the treatment and that

dyspnea is a subjective symptom and not a vital sign itself. Hospitalists who appreciated the importance of dyspnea in clinical practice were more likely to support the implementation of a standardized dyspnea scale for dyspnea assessment.

Although the potential benefits of including routine measurement of dyspnea in standard hospital practice may seem obvious, evidence that implementing routine assessment improves patient care or outcomes is lacking. Even if hospitalists see the value of dyspnea assessment, asking nurses to collect and document additional information would represent a substantial change in hospital workflow. Finally, without specific protocols to guide care it is unclear whether physicians will be able to use new information about dyspnea severity effectively. Future studies need to evaluate the impact of implementing routine dyspnea assessment on the management of patients with cardiopulmonary diseases including the use of evidence-based interventions and reducing the use of less valuable care.

Most hospitalists agreed with the basic principles of dyspnea treatment in patients with advanced cardiopulmonary disease after the primary disease had been stabilized. Effective measures are available²⁴ and several guidelines endorse opioids in dyspnea management.^{1,9,11} However, many clinicians are uncomfortable with this approach for dyspnea, and opioids remain underused. In our study almost 90% of physicians recognized that concerns about respiratory depression limits opioids use as a treatment. A qualitative study which explored the physicians' perspective towards opioids showed that most physicians were reluctant to prescribe opioids for refractory dyspnea, describing a lack of related knowledge and experience, and fears related to the potential adverse effects. The findings of our study also outline the need to better educate residents and hospitalists on the assessment and management of dyspnea, including prescribing opioids for refractory dyspnea.²⁴

Study strengths and limitations

This study has several strengths. To our knowledge, it is the first to explore hospitalists' perspectives on incorporating dyspnea assessment in their clinical practice. Hospitalists are the attending physicians for a large majority of inpatients and would be the main users of a dyspnea severity scale. Our questionnaire survey included a large number of hospitalists, from nine geographically and structurally diverse hospitals, which increased the generalizability of the findings to other hospitals around the country.

The study also has several limitations that need be kept in mind in interpreting the study results. First, desirability bias may have exaggerated some of the positive views expressed by hospitalists towards implementation of routine assessment of dyspnea. Second, because this was a survey, the estimates of dyspnea assessment and documentation practices of both physicians and nurses were based on the respondents' perception and not an objective review of medical records and the results may be different from actual practice. Third, this was not a population-based random sample of hospitalists and it may not be entirely representative; however those surveyed were from a diverse set of sites with different geographical location, size, academic affiliation and practice environment and their time in practice varied widely. Lastly, we do not have information on non-respondents and there is a possibility of non-response bias, although the high response rate lessens the risk.

Conclusions

The results of this survey suggest that most hospitalists believe that routine assessment of dyspnea severity would enhance their clinical decision making and improve patient care. Standardized assessment of dyspnea might result in better awareness of this symptom among providers, reduce under-treatment and mistreatment and ultimately result in better outcomes for patients. However, implementation of the routine assessment of dyspnea would change current clinical practices and may have a significant effect on existing nursing and physician workflows. Additional research is needed to determine the feasibility and impact on outcomes of routine dyspnea assessment.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Dr. Mihaela Stefan is supported by grant 1K01HL114631-01A1 from the National Heart, Lung, and Blood Institute of the National Institutes of Health. The project was also supported by the National Center for Research Resources and the National Center for Advancing Translational Sciences, National Institutes of Health, through grant UL1RR025752.

The funder had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

MSS and PKL conceived of the study. MSS acquired the data with help of all collaborators. MSS, PKL, PSP, and AP analyzed and interpreted the data. MSS drafted the manuscript. All authors critically reviewed the manuscript for intellectual content. MSS, PKL, and AP had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. MSS is the guarantor for this paper, and is responsible for the content of the manuscript, including data and analysis.

The authors wish to acknowledge Ms. Anu Joshi for her help with editing the manuscript and assisting with table preparations.

References

1. American Thoracic Society. Dyspnea. Mechanisms, assessment, and management: a consensus statement. American Thoracic Society. Am J Respir Crit Care Med. 1999 Jan; 159(1):321–40. [PubMed: 9872857]
2. CDC/National Center for Health Statistics. National Hospital Amulatory Medical Care Survey: 2011 Emergency Department Summary Tables [Internet]. Centers for Disease Control and Prevention; 2014 Nov. p. 39[cited 2015 May 15]Available from: http://www.cdc.gov/nchs/data/ahcd/nhamcs_emergency/2011_ed_web_tables.pdf
3. Marciniuk DD, Goodridge D, Hernandez P, Rocker G, Balter M, Bailey P, et al. Managing dyspnea in patients with advanced chronic obstructive pulmonary disease: a Canadian Thoracic Society clinical practice guideline. Can Respir J J Can Thorac Soc. 2011 Apr; 18(2):69–78.
4. Sigurdardottir KR, Haugen DF. Prevalence of distressing symptoms in hospitalised patients on medical wards: A cross-sectional study. BMC Palliat Care. 2008; 7:16. [PubMed: 18808724]
5. Albert N, Trochelman K, Li J, Lin S. Signs and symptoms of heart failure: are you asking the right questions? Am J Crit Care Off Publ Am Assoc Crit-Care Nurses. 2010 Sep; 19(5):443–52.
6. Reuben DB, Mor V. Dyspnea in terminally ill cancer patients. Chest. 1986 Feb; 89(2):234–6. [PubMed: 3943383]

7. Mahler DA, Selecky PA, Harrod CG, Benditt JO, Carrieri-Kohlman V, Curtis JR, et al. American College of Chest Physicians consensus statement on the management of dyspnea in patients with advanced lung or heart disease. *Chest*. 2010 Mar; 137(3):674–91. [PubMed: 20202949]
8. Kroenke K, Mangelsdorff AD. Common symptoms in ambulatory care: incidence, evaluation, therapy, and outcome. *Am J Med*. 1989 Mar; 86(3):262–6. [PubMed: 2919607]
9. The Joint Commission. Facts about Pain Management [Internet]. 2014. [cited 2014 Sep 22]. Available from: http://www.jointcommission.org/pain_management/
10. Buser M. Hospitalist programs in the age of healthcare reform. *J Healthc Manag Am Coll Healthc Exec*. 2010 Dec; 55(6):378–80.
11. Casey MM, Hung P, Moscovice I, Prasad S. The Use of Hospitalists by Small Rural Hospitals: Results of a National Survey. *Med Care Res Rev MCRR*. 2014 May 14; 71(4):356–66. [PubMed: 24830380]
12. Tufts CTSI. REDCap [Internet]. Tufts Clinical and Translational Science Institute; [cited 2014 Sep 22]. Available from: <http://www.tuftsctsi.org/Services-and-Consultation/REDCap.aspx?c=130558846501209012>
13. Carrieri-Kohlman, V.; Dudgeon, D. Multi-dimensional Assessment of Dyspnea. In: Booth, S.; Dudgeon, D., editors. *Dyspnoea in Advanced Disease: A guide to clinical management* [Internet]. Oxford: p. 19-37. Also available as: eBook; 2005 [cited 2014 Sep 22] Available from: <http://ukcatalogue.oup.com/product/9780198530039.do>
14. Lorenz K, Lynn J, Dy S, Hughes R, Mularski RA, Shugarman LR, et al. Cancer care quality measures: symptoms and end-of-life care. *Evid Report Technology Assess*. 2006 May; (137):1–77.
15. Mularski RA. Defining and measuring quality palliative and end-of-life care in the intensive care unit. *Crit Care Med*. 2006 Nov; 34(11 Suppl):S309–16. [PubMed: 17057592]
16. Gift AG, Narsavage G. Validity of the numeric rating scale as a measure of dyspnea. *Am J Crit Care Off Publ Am Assoc Crit-Care Nurses*. 1998 May; 7(3):200–4.
17. Kendrick KR, Baxi SC, Smith RM. Usefulness of the modified 0–10 Borg scale in assessing the degree of dyspnea in patients with COPD and asthma. *J Emerg Nurs JEN Off Publ Emerg Dep Nurses Assoc*. 2000 Jun; 26(3):216–22.
18. Lansing RW, Moosavi SH, Banzett RB. Measurement of dyspnea: word labeled visual analog scale vs. verbal ordinal scale. *Respir Physiol Neurobiol*. 2003 Mar 3; 134(2):77–83. [PubMed: 12609476]
19. Morris NR, Sabapathy S, Adams L, Kingsley RA, Schneider DA, Stulbarg MS. Verbal numerical scales are as reliable and sensitive as visual analog scales for rating dyspnea in young and older subjects. *Respir Physiol Neurobiol*. 2007 Aug 1; 157(2–3):360–5. [PubMed: 17303478]
20. Hayes AW, Philip J, Spruyt OW. Patient reporting and doctor recognition of dyspnoea in a comprehensive cancer centre. *Intern Med J*. 2006 Jun; 36(6):381–4. [PubMed: 16732865]
21. Brown ML, Carrieri V, Janson-Bjerklie, Dodd MJ. Lung cancer and dyspnea: the patient's perception. *Oncol Nurs Forum*. 1986 Oct; 13(5):19–24. [PubMed: 3638715]
22. LeGrand SB, Khawam EA, Walsh D, Rivera NI. Opioids, respiratory function, and dyspnea. *Am J Hosp Palliat Care*. 2003 Feb; 20(1):57–61. [PubMed: 12568438]
23. Banzett RB, Adams L, O'Donnell CR, Gilman SA, Lansing RW, Schwartzstein RM. Using laboratory models to test treatment: morphine reduces dyspnea and hypercapnic ventilatory response. *Am J Respir Crit Care Med*. 2011 Oct 15; 184(8):920–7. [PubMed: 21778294]
24. Rocker G, Young J, Donahue M, Farquhar M, Simpson C. Perspectives of patients, family caregivers and physicians about the use of opioids for refractory dyspnea in advanced chronic obstructive pulmonary disease. *CMAJ Can Med Assoc J J Assoc Medicales Can*. 2012 Jun 12; 184(9):E497–504.

Figure 1.
Attitude and practices regarding dyspnea assessment and management

Table 1**Responses of Hospitalists to Questions Regarding Current Assessment and Management of Dyspnea**

	Frequency (%)
When caring for patients with acute cardiopulmonary diseases how often do you assess severity of dyspnea?*	
At admission	66 (37.1)
At discharge	59 (33.2)
Daily until discharge	150 (84.3)
More often than daily	58 (32.6)
Which description best characterizes your approach to assessing dyspnea severity?	
I don't regularly ask about dyspnea severity	3 (1.7)
I ask the patient whether or not they are having shortness of breath	50 (28.3)
I ask the patient to rate the severity of shortness of breath using a numeric scale	4 (2.3)
I ask the patient to rate the severity of shortness of breath using a categorical scale (e.g., somewhat SOB, no SOB, improved or worsened compared with a prior date)	120 (67.8)
When is dyspnea severity assessed and documented by nursing at your hospital?*	
Dyspnea is not routinely assessed	60 (33.7)
At admission	30 (16.9)
Daily	43 (24.2)
Each shift	64 (36.0)
Awareness of dyspnea severity affects my management by:*	
Influencing my decision to intensify treatment of the patient's underlying condition	170 (95.5)
Influencing my decision to pursue additional diagnostic testing	160 (89.9)
Influencing my decision to add pharmacologic-based, symptom-oriented treatment for dyspnea, such as opioids	115 (64.6)
Influencing my decision to add non-pharmacologic-based, symptom-oriented treatment for dyspnea, such as fans or pursed lip breathing technique	58 (32.6)
Influencing my decision regarding timing of discharge	162 (91.0)
Which of the following non-pharmacologic therapies are effective for the relief of dyspnea?*	
Pursed lip breathing	113 (63.5)
Relaxation techniques	137 (77.0)
Noninvasive ventilation	143 (80.3)
O2 for non-hypoxemic patients	89 (50.0)
Cool air/fan	125 (70.2)
Cognitive behavioral strategies	101 (56.7)

* Survey respondents selected all that apply so these numbers are not mutually exclusive

Table 2

Attitude regarding the importance of dyspnea in clinical care and responses to subsequent questions

Description	Do not agree n (%)	Somewhat agree n (%)	Strongly agree n (%)	p-value ^a
	37 (20.9)	43 (24.3)	97 (54.8)	
Which description best characterizes your approach to assessing dyspnea severity?				0.55 ^b
I don't regularly ask about dyspnea severity	0 (0)	0 (0)	3 (3.1)	
I ask the patient whether or not they are having shortness of breath	11 (29.7)	14 (32.6)	25 (25.8)	
I ask the patient to rate the severity of shortness of breath using a numeric scale	2 (5.4)	1 (2.3)	1 (1.0)	
I ask the patient to rate the severity of shortness of breath using a categorical scale (e.g., somewhat shortness of breath, no shortness of breath, improved or worsened compared with a prior date)	24 (64.9)	28 (65.1)	68 (70.1)	
Patients would like me to ask them about their dyspnea.				<0.0001
Somewhat agree	9 (24.3)	21 (48.8)	32 (32.7)	
Strongly agree	11 (29.7)	13 (30.2)	60 (61.2)	
Patients are able to rate their own dyspnea intensity on a scale of 0–10.				0.43 ^b
Somewhat agree	12 (32.4)	16 (37.2)	42 (43.3)	
Strongly agree	2 (5.4)	0 (0)	2 (2.1)	
Having a standardized assessment of dyspnea severity would be helpful to me in management of patients with cardiopulmonary diseases.				0.026
Somewhat agree	17 (46.0)	25 (58.1)	57 (58.2)	
Strongly agree	7 (18.9)	6 (14.0)	28 (28.6)	
Serial measurements of dyspnea would be useful for assessing response to therapy.				0.04 ^b
Somewhat agree	14 (37.8)	28 (65.1)	48 (49.5)	
Strongly agree	16 (43.2)	12 (27.9)	43 (44.3)	
Dyspnea assessment by a scale should be part of the vital signs for patients with cardiopulmonary diseases.				0.04 ^b
Somewhat agree	13 (35.1)	17 (39.5)	51 (52.0)	
Strongly agree	4 (10.8)	5 (11.6)	19 (19.4)	
Using an enhanced dyspnea scale that includes information about the following 4 features 1) Current dyspnea severity, 2) Worst dyspnea ever, 3) Improvement of dyspnea since admission, 4) Acceptability of current level of dyspnea, would be more helpful for my management than a single question focused on dyspnea severity.				0.03
Somewhat agree	14 (40.0)	24 (55.8)	44 (44.9)	
Strongly agree	9 (25.7)	9 (20.9)	40 (40.8)	
The patients' experience of dyspnea should be used to guide treatment decisions independent of objective measures such as respiratory rate and oxygen saturation.				0.10
Somewhat agree	20 (54.0)	21 (48.8)	51 (52.0)	
Strongly agree	5 (13.5)	6 (14.0)	27 (27.6)	

Description	Do not agree n (%)	Somewhat agree n (%)	Strongly agree n (%)	p-value ^a
Judicious use of oral and/or parenteral opioids can provide relief of dyspnea.				0.21
Somewhat agree	20 (54.0)	23 (54.8)	50 (51.6)	
Strongly agree	10 (27.0)	6 (14.3)	30 (30.9)	
Limited use of opioids for relief of dyspnea in patients with advanced cardiopulmonary disorders is often due to concerns of respiratory depression.				0.71
Somewhat agree	17 (46.0)	23 (54.8)	43 (43.9)	
Strongly agree	15 (40.5)	14 (33.3)	45 (45.9)	

^a Chi-square test

^b Fisher's exact test