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Original Research Report

Mental Health Screening of Medically-Admitted Patients With Cystic Fibrosis

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Background: *Multi-national studies have identified an increased risk for depression and anxiety among the cystic fibrosis population. People with cystic fibrosis and depression have decreased lung function, adherence, and quality of life, and increased health care utilization. This is a pilot study of mental health screening and referral of patients with cystic fibrosis in a large tertiary medical center.* **Objective:** *Patients with a diagnosis of cystic fibrosis aged 8 and older, medically admitted to a tertiary hospital, were screened for eligibility and offered mental health screening for depression and anxiety.* **Methods:** *Patients indicating elevated rates of anxiety, depression, or suicidal ideation were offered a psychiatric consultation, and all participants were offered mental health referrals. Health-related outcomes were gathered via medical record review.* **Results:** *The pediatric population showed elevated rates/at risk of depression (17%), anxiety (22%) and clinically-elevated depression (5%), and anxiety (11%). Twenty-two percent of the youth reported suicidal ideation. The adult population reported mild rates of depression (11%), anxiety (28%), and suicidality (11%). The mental health screening process resulted in 1 mental health referral, 16 patients eligible for psychiatric consultation, and 4 completed psychiatric consultations.* **Discussion:** *This study represents a pilot mental health screening in the inpatient medical setting. The results indicate an elevated rate of depression, anxiety, and suicidal ideation, and a protocol for responding to elevated responses via psychiatric consultation. This study indicates the need for further exploration of implementation of mental health screening, rapid response to suicidal ideation, referral process, and treatment interventions.*

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Key words: cystic fibrosis, anxiety, depression, suicide.

INTRODUCTION

Cystic fibrosis (CF) is the most common autosomal recessive genetic disorder in the United States.[1] There are approximately 1000 new cases of CF diagnosed every year, and the illness affects 30,000 people in the United States.[1] CF is caused by a genetic abnormality in the CF transmembrane conductance regulator responsible for chloride channel conductance of

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chloride and water across membranes resulting in lung disease, sinus disease, pancreatic insufficiency, diabetes, coagulation difficulties, infertility, malnutrition, and delayed growth.[1] It is projected that children born within the last decade will live longer than those born before them, and that the estimated total pediatric and adult populations will increase by 20% and 75%, respectively, by the year 2025.[2,3]

Patients with CF live with a chronic life-shortening illness that has a significant effect on their physical and mental health. Living with a complex chronic illness requires patients to spend hours on their medical regimen, take multiple medications, and experience pain or discomfort due to medical procedures or the disease itself.[4] The International Depression/Anxiety Epidemiological Study (TIDES) assessed the prevalence of anxiety and depression in over 6000 patients with CF and their parent caregivers across 9 countries.[5] TIDES found that a significant proportion of patients with CF report elevated levels of global depression (10% of adolescents and 19% of adults) and anxiety (22% of adolescents and 32% of adults).[5] This represents a two-fold to three-fold increase in risk for depression and anxiety for both age groups relative to the general population.[5] There was some variability between countries in the TIDES study, with results from some European countries not finding any elevated risk for anxiety and depression among patients with CF, in comparison to those countries' general populations.[6] Several studies found a relationship between anxiety, depression, and functional expiratory volume 1%, the gold standard measure of lung health in CF.[7,8]

CF patients' level of depression has been shown to be associated with their respiratory function, medical adherence, quality of life, and health care utilization.[9–12] A recent survey of mental health provisions indicates that only 79% of CF Centers have a social worker and only 43% were already completing mental health screening.[13] Current consensus guidelines recommended that there be annual mental health screening of patients in CF Centers in the United States.[5] Recommendations include that elevated levels of depression and anxiety be assessed and evidence-based psychologic or pharmacologic interventions or both be used.[14] It is clear that individuals with CF face unique challenges that can lead to psychologic burden, and that a key goal is how to maintain mental health across the lifespan in CF, including prevention measures, screening, and psychologic or medication interventions.[15,16] Little is known, however, about what types of evaluations, interventions, and referrals follow mental health screening.

Little has been reported in the literature on how treatment teams respond to reports of suicidal ideation (SI) and how to initiate a safety evaluation, referral, or safety planning as indicated by the guidelines.[14] There are limited data on the incidence of SI among patients with CF, because the TIDES study did not use measures with an item assessing suicidality.[5] Thus, assessing the prevalence of SI is a clinically important area, particularly as the CF community begins annual mental health screening.

Both psychiatric and medical illnesses have been identified as risk factors for SI and suicide attempts.[17,18] Studies have found that the presence of a general medical condition predicted a 1.3 times increase in the likelihood of SI after controlling for major depression, depressive symptoms, alcohol use, and demographic characteristics.[17] In particular, the same study found that pulmonary diseases were associated with a two-thirds increase in the odds of lifetime SI.[17] Co-morbid depression, anxiety, and substance abuse have been identified as risk factors for increased suicidal behaviors.[18] The results of the World Mental Health Survey of 14 countries and other studies have found that even without any co-morbid psychiatric illnesses, chronic medical illness is an independent risk factor for suicide.[19] Additionally, the number of medical diagnoses a patient has correlates to increased thoughts of self-harm.[20]

The goal of this study was to pilot a mental health screening for patients with CF on an inpatient medical floor, using a standardized battery of measures. This study also sought to explore mental health issues for patients with CF by examining screening for depression, anxiety, and suicidality. Finally, we sought to examine the treatment referral process and clinical response to SI.

MATERIAL AND METHODS

Procedures

This was part of a quality improvement initiative for the CF center. Before initiation of the study, all materials and protocols were reviewed and approved