



CLINICAL REVIEW

Screening for suicide risk in adult sleep patients[☆]

Christopher W. Drapeau^{a,*}, Michael R. Nadorff^{b,c}, William Vaughn McCall^d,
Caitlin E. Titus^b, Nathan Barclay^b, Allyson Payne^{b,1}

^a Department of Education, Valparaiso University, IN, USA

^b Department of Psychology, Mississippi State University, MS, USA

^c Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, TX, USA

^d Department of Psychiatry and Health Behavior, Medical College of Georgia, Augusta University, GA, USA

ARTICLE INFO

Article history:

Received 1 November 2018

Received in revised form

7 March 2019

Accepted 22 March 2019

Available online 29 March 2019

Keywords:

Suicide

Sleep problems

Sleep disorder

Screening

Risk

Physician

Clinician

Sleep clinic

SUMMARY

Outpatient visits for sleep-related difficulties and the rate of suicide in the United States have both increased by more than 20% since 1999. Research suggests that anywhere from 75% to 91% of suicide decedents had contact with a physician within the year prior to fatally attempting suicide. Although the prevalence of such contacts among sleep clinicians is unknown, it is important to note that sleep disturbances in general are both a risk factor and potential warning sign for suicide. Screening for suicide risk among sleep patients is recommended, especially among those with a history of psychiatric and chronic medical conditions. Using evidence-based screening tools, such as the Columbia suicide severity rating scale, when screening patients for suicide risk is recommended despite the need for more research on the efficacy of suicide screening. For sleep clinic professionals who do not have the time to comprehensively assess and manage suicide risk, they are encouraged to implement suicide prevention policies within their departments and clinics and to follow the best available evidence to inform these policies. A protocol for screening for suicide risk in sleep clinics is outlined along with triage and documentation recommendations.

© 2019 Elsevier Ltd. All rights reserved.

Introduction

Sleep disorders have been identified as independent risk factors for suicide ideation and fatal and nonfatal suicidal behavior [1]. This is important for sleep clinicians (e.g., sleep physicians, sleep psychologists, etc.) to know given the increased prevalence of suicide [2] and outpatient visits for sleep-related complaints [3]

since 1999. Additionally, physicians have been considered viable partners in the public health initiative to prevent suicide [4]. We call for sleep clinicians to join the suicide prevention initiative, especially given the established associations between sleep problems and suicide risk and the role that sleep may play in the development of psychiatric illnesses [5] associated with suicide risk. The purpose of this paper is to provide sleep clinicians with recommendations for screening suicide risk and triaging at-risk adult sleep patients using an evidence-based screening tool such as the Columbia suicide severity rating scale. We also provide a brief review of the sleep and suicide risk literature with additional sections focused on hypnotics and suicide, the clinician-patient alliance, and the potential gatekeeper role that those outside the sleep clinic can occupy to assist in the detection of suicide risk among those with sleep problems.

Methods

As part of this paper, we conducted a literature review of suicide risk screening and assessment studies identified through PsycINFO, MEDLINE/PubMed, and Google Scholar. Papers included in

Abbreviations: BDI, Beck depression inventory; CAMS, Collaborative assessment and management of suicidality; C-SSRS, Columbia suicide severity rating scale; DSM-IV, Diagnostic and statistical manual of mental disorders, 4th edition; PCP, Primary care provider; PHQ-9, Patient health questionnaire-9; PTSD, Posttraumatic stress disorder; RLS, Restless legs syndrome; SBQ-R, Suicide behaviors questionnaire-revised; SSF, Suicide status form.

[☆] This paper was completed at Mississippi State University and Valparaiso University and all authors have seen and approved of this manuscript. None of the authors received financial support for completing this paper. This manuscript does not report on a clinical trial.

* Corresponding author. Department of Education, Valparaiso University, 1800 Chapel Dr., Meier Hall 122, Valparaiso, IN, 46383, USA.

E-mail address: chris.drapeau@valpo.edu (C.W. Drapeau).

¹ Allyson Payne is now at the Department of Psychology, The University of Alabama at Birmingham, AL, USA.

this review were peer-reviewed and published in English. This review was conducted to ensure the comprehensiveness of the following sections in this paper: the initial paragraph in the Screening for suicide risk section and the Limitations of single item screening and Concerns about iatrogenic effects subsections. Each search was run separately by two of the authors and findings were merged. Using the search terms suicide, risk, and assessment yielded 4423 results when using PsychINFO and 4330 results when using MEDLINE. Additional search terms used included [iatrogenic AND suicide], [ED 'screening' AND suicide], [suicide risk assessment AND self-injurious behavior AND follow-up] and [suicide AND 'mass screening']. The literature search was conducted with no start date limit until April 2017 and no limitations were placed on the searches. Articles that did not focus on the screening or assessment of suicide risk were discarded, reducing the total number of articles to 54. Evidence of the research was not graded given published research on the screening and/or assessment of suicide risk among sleep patients was not identified.

Background

The 2012 United States national strategy for suicide prevention [4] called for increased primary care provider (PCP) education regarding suicide warning signs as well as increasing PCP knowledge about how to screen patients for risk and refer at-risk patients for mental health care. These three areas are considered a few of the basic services and supports that "should be available" to patients when visiting their physician [4].

This call for action is preceded and followed by empirical studies showing patient contact with a PCP in the months prior to a fatal suicide attempt. A review of studies based in Europe, Australia, and the United States showed that 75% of suicide decedents had contact with a PCP within the 12 mo prior to fatally attempting suicide, with 45% of the decedents making contact with their PCP within one month of their fatal attempt [6]. Other studies have revealed higher percentages of PCP contact within 12 mo of suicide (ranging from 80% in Northern Ireland [7] to 91% in England [8]) and percentages as low as 38–39% within one month of suicide in populations from both Israel and Slovenia [9,10]. Though more research is needed in order to determine the efficacy of screening for suicide risk in primary care settings and preventing suicide by improving physician suicide risk assessment knowledge [11], the Joint commission for the accreditation of hospitals now requires a systematic assessment of suicide risk for every patient who presents to the hospital (including the emergency room) with any behavioral health complaint [12].

With several empirical studies demonstrating potential opportunities for PCPs to prevent suicide attempts, such opportunities may also present for sleep clinicians. Although, to our knowledge, no studies have examined the prevalence or timing of sleep clinic appointments prior to a fatal suicide attempt (or the cross-sectional prevalence of suicide ideation in patients presenting to sleep clinics), one study analyzing several near-term risk factors for suicide found that 76% of people who had died by suicide reported sleep problems to their clinical practitioner in the 30 d prior to suicide [13]. The research literature on sleep disturbance and suicide risk [1] suggests that opportunities to prevent suicide also extend to sleep clinicians.

Sleep and suicide research

Suicide nomenclature has developed over time with a two-part landmark nomenclature paper defining suicide as a self-initiated action intended to end one's life that results in the death of the individual [14]. There are also precursors to suicide including

suicide ideation, which includes thoughts focused on suicide that may also include intent to attempt and/or a suicide attempt plan (but with no action taken). A suicide attempt is a self-initiated action intended to end one's life that does not result in the death of the individual [15]. Planning can be thought of as equating to the thoughts surrounding how one will attempt (e.g., identifying an attempt method and/or a place to attempt) while preparing often requires some type of action (e.g., stockpiling medications, securing access to a firearm, etc.) and could be considered a suicide-related behavior [16]. For the purpose of this paper, suicide-related thoughts and behaviors are differentiated by the level of action taken by the individual and suicide risk is the cumulative likelihood of an individual to engage in suicide-related behaviors.

Sleep disturbance

The importance of sleep disturbance in predicting suicide-related behavior, among other variables, was shown empirically almost six decades ago [17], yet our knowledge about why this association exists is still emerging. It was only recently that the results of two systematic reviews supported the conclusion that sleep disturbances in general are both a risk factor and potential warning sign for suicide [18,19]. In addition, the inclusion of sleep disturbance as a warning sign of a "suicidal crisis" among youth was highlighted recently by the National center for the prevention of youth suicide [20].

A 2012 meta-analysis also supported the observation found in previous studies regarding significant associations between sleep disturbances (including insomnia and nightmares) and suicide-related ideation and behavior [21]. Additionally, the 2012 meta-analysis showed that depression did not moderate the association between sleep disturbance and suicide risk, an important result to highlight given both sleep disturbance (in this case, insomnia) and suicide-related ideation are diagnostic features of a major depressive episode [22].

Sleep disturbance may be able to stand alone as an independent pathway to increased suicide risk and eventual suicide [23]. However, when considering the relations between sleep variables and suicide risk, much of the research literature is focused on specific sleep disorders. A few that have received attention empirically include sleep disordered breathing, restless legs syndrome, narcolepsy, insomnia, and nightmare disorder.

Sleep disordered breathing

A small number of studies have investigated for relations between sleep apnea and suicide risk. A cross-sectional study of more than 40,000 U.S. adults showed that suicide-related thoughts and suicide attempt planning were more likely among adults with sleep apnea than those without the condition (when controlling for several suicide risk factors, one of which included past year depressive episode) [24]. Additionally, a study of 153 female sexual assault survivors with posttraumatic stress disorder (PTSD) showed that those with sleep disordered breathing demonstrated greater depression severity and suicide risk compared to those without sleep-disordered breathing [25]. Of note, research suggests that anywhere from 39 to 61% of patients diagnosed with obstructive sleep apnea have insomnia symptoms [26,27], a condition that has been associated repeatedly with increased suicide risk (see Insomnia section). Thus, it will be important for future studies to control for co-occurring sleep disorders. To further emphasize this point, consider that those with the greatest depression severity and suicide risk in the sample of female sexual assault survivors with PTSD was shown among those with sleep-disordered breathing and a sleep movement disorder.

Restless legs syndrome

Similar to sleep-disordered breathing, restless legs syndrome (RLS) has not received much empirical attention in regards to a potential relation with suicide risk. One study showed that 38% of RLS patients in the sample endorsed thoughts of suicide, with depressed RLS patients being more likely than controls to attribute their sleep disturbances, depressive symptoms, and suicide ideation entirely to RLS [28]. More research is needed among patients with RLS in order to determine if co-morbid insomnia or other psychiatric illness can explain the relation between RLS and suicide risk.

Narcolepsy

Narcolepsy has been associated with an increased risk of all-cause mortality across all age groups when compared with the general population [29], with suggestions that mortality at earlier ages may be due to suicide given the association between excessive daytime sleepiness and suicide among adolescents (see Excessive daytime sleepiness section). At present, few studies have examined the prevalence of suicide among those diagnosed with narcolepsy, but each of these studies reported increased suicide risk [29,30].

Insomnia

Multiple studies show that self-reported insomnia symptoms may independently increase the risk of suicide-related ideation and fatal and nonfatal suicide attempts [31–33]. Insomnia severity is positively associated with the intensity of suicide-related ideation in patients experiencing a major depressive episode, even when controlling for depressed mood and anhedonia [34]; and has been associated with violent, nonfatal suicide attempts in a sample of patients admitted to an Emergency department [35].

Additionally, the results of a study of middle-aged and older adults indicated that insomnia severity was more pronounced among adults with depressive symptoms and past suicide-related behavior than adults with depressive symptoms and concurrent suicide-related ideation [36]. Significant differences remained between these groups when the researchers controlled for several potential confounders, which included severity of depression and anxiety symptoms, and they also noted that the significant differences in insomnia symptom severity observed between these groups could not be explained by interpersonal difficulties, executive dysfunction, posttraumatic stress disorder (PTSD) symptoms, or benzodiazepine use [36].

However, it has been hypothesized that decreased frontal lobe function and executive dysfunction resulting from sleep disturbance may contribute to suicide risk [37] and one potential confounder of the insomnia-suicide relation may be the presence of nightmares. For instance, recent research suggests that the relation between insomnia symptoms and suicide-related ideation can be explained by nightmares and dysfunctional beliefs and attitudes about sleep [38]. Additional mechanisms of the insomnia symptom-suicide risk relation have been explored (i.e., duration of insomnia symptoms, cognitive/affective symptoms of depression, hopelessness, agitation, and thwarted belongingness). We direct readers to a recent narrative review for more information on these mechanisms [39].

Nightmares

As with self-reported insomnia symptoms, nightmares also appear to independently increase suicide risk [40,41]. The

frequency of nightmares has been implicated as a risk factor for forthcoming fatal [41] and nonfatal suicide attempts [42]. Indeed, a prospective study of adult inpatients admitted after a nonfatal suicide attempt showed that baseline nightmare frequency independently predicted a future suicide attempt, even when controlling for early morning awakening or difficulties with initiating or maintaining sleep [40]. However, the researchers observed that the risk for a future suicide attempt was highest in those patients who reported experiencing nightmares at both baseline and two-month follow-up, which may suggest that the length of time an individual has been experiencing nightmares is an important factor in predicting suicide risk.

This supposition was supported in a recent study by Golding and colleagues [43] who found that nightmare duration among older adults predicted more variance in suicide risk than several sleep and psychiatric variables, including current presence of nightmares, current insomnia symptoms, insomnia duration, PTSD symptoms, or anhedonia (one of the core symptoms of a major depressive episode [22]). In addition, severity of suicide risk among young adults has been shown to increase the longer they have experienced nightmares [44]. This finding held even after controlling for the symptoms of depression, PTSD, and anxiety.

As more knowledge has accumulated regarding the role that nightmares have in elevating suicide risk, the mechanism by which this risk is conveyed is still largely unknown. Though the results from one study that examined a multiple mediation hypothesis in a sample of 91 individuals who experienced past traumatic events may provide a starting point for this type of research [45]. This particular study showed that feelings of defeat, entrapment, and hopelessness partially explained the relation between nightmares and suicide risk. As noted previously [46], such mediation research potentially provides a base to spring future investigations from in regards to improving our understanding about why nightmares increase risk for attempting suicide. Extending our understanding of the mechanisms that can explain why nightmares independently confer risk for attempting suicide is important given that such an understanding can improve our ability to assess for and formulate the patient's level of suicide risk [46].

Excessive daytime sleepiness

One potential consequence of the above-mentioned sleep concerns includes excessive daytime sleepiness. Few studies have examined the relation between daytime sleepiness and suicide-related variables, but those that have showed that daytime sleepiness is associated with suicide ideation among adults with depression [47] and differentiated (along with sleep onset insomnia) adolescents who fatally and non-fatally attempted suicide [31].

Hypnotics and suicide

Poisoning (which includes hypnotic prescription overdoses) has been the third-leading fatal suicide attempt method in the United States since 1995 (second-leading method from 1981 to 1994) [48]. Although benzodiazepine receptor agonist hypnotic therapy is considered one of the best pharmacotherapeutic approaches for the treatment of insomnia [49], research shows an association between hypnotic use and suicide among middle-aged [50] and older adults [51]. For instance, one case-control study showed a four-fold increase in fatal suicide attempt risk among older adults taking hypnotics (independent of any DSM-IV axis I disorder), with about half of the suicide decedents in the sample having hypnotic prescriptions at the time of suicide [51]. Additionally, prescription hypnotic use in the past year has been associated with suicide

ideation, suicide attempt planning, and nonfatal suicide attempts among a sample of adults [52]. This relation held after statistically controlling for demographic variables, chronic medical conditions, sleep disturbances, and past year psychiatric illness symptoms, and hypnotic use was shown to be a stronger predictor of suicide-related thoughts and nonfatal suicide attempts than insomnia symptoms [52].

The mechanism by which hypnotics increase suicide attempt risk is generally unknown [53]. Postulates include a history of psychiatric or medical conditions that contribute to sleep problems (and increase access to hypnotics via prescription) [52], hypnotics inducing parasomnia behavior that was absent prior to hypnotic use [54], and the medications either negatively impacting the patient's inhibition or altering consciousness [53]. To reduce the risk of suicide when prescribing hypnotics, it is recommended that prescribers use the lowest available dose as the starting dose, insist on rapid re-evaluation after one week of treatment, and discontinue the hypnotic if signs of parasomnia, dissociation or emergent suicidal ideation are observed [53]. We also suggest that clinicians take note of the sleep patient's mental health history given sleep disturbance often presents concomitantly with psychiatric illnesses [55], or can lead to their development [5], and because the risk for suicide among those with a psychiatric illness is elevated [56]. Findings vary across studies, but a few of the psychiatric conditions linked with increased suicide risk include major mood disorders (i.e., major depressive disorder and bipolar disorder), borderline personality disorder, anorexia nervosa [57], impulse control disorders (e.g., substance use disorders, conduct disorder, etc.) and those disorders with significant anxiety and agitation (e.g., PTSD) [58].

Screening for suicide risk

Although screening for suicide risk is becoming standard in many fields, it is important to note that these recommendations rely on rather little evidence. In 2004 and 2014, the United States preventive services task force [59] determined that there is insufficient evidence to assess the potential benefits and harms of suicide risk screening in primary care settings. This recommendation regarding primary care settings was supported by a 10-y systematic review of suicide prevention interventions which also found insufficient literature to judge the benefits and risks of screening [11]. Though more research is needed to determine the effectiveness of suicide screening tools in primary care, it is important to note that a recent randomized control trial supported the conclusion of previous studies showing no iatrogenic effects attached to assessing for suicide risk (see Concerns about iatrogenic effects section) [60]. Although the evidence is not yet clear regarding the effectiveness of suicide risk screening in primary care or sleep specialty settings, evidence exists supporting the contention that physician inquiries about suicide risk are infrequent when interacting with depressed patients [61], including research showing that suicide risk screening tools are generally well accepted by patients and professionals when utilized [62,63]. Further, screening for suicide is rapidly becoming the standard of care in many fields. For instance, and as noted earlier, the Joint commission now requires a systematic assessment of suicide for every hospital patient with a behavioral health complaint [12]. Given that several sleep disorders are listed in the current edition of the American psychiatric association's diagnostic and statistical manual of mental disorders (e.g., insomnia, nightmares) [22], and some of these have been linked with suicide risk, sleep clinics are increasingly being put in a position where they need to decide how to implement suicide screening and patient safety procedures.

Limitations of single item screening

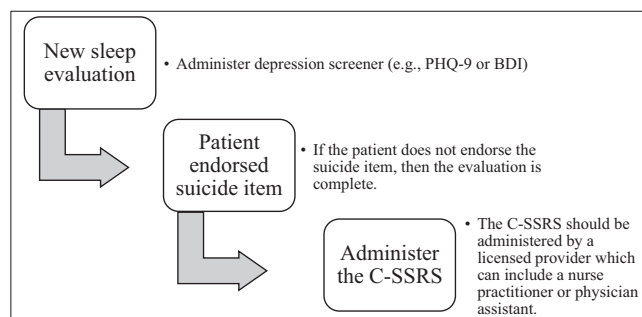
Further complicating recommendations to screen for suicide risk is the reliance on tools that are not specifically designed to detect impending suicide-related behavior. One example is item 9 from the Patient health questionnaire-9 (PHQ-9). Studies have found that PHQ-9 item 9 can be predictive for detecting suicide risk over time [64], but it demonstrates mixed results in detecting forthcoming suicide attempts. More specifically, the PHQ-9 was not a strong predictor of imminent suicide risk, but did predict suicide over a two-year period [65,66]. The lack of imminent suicide risk prediction may be due to the PHQ-9 not assessing the presence of a plan or intent to attempt suicide, which has been shown to be predictive of a future suicide attempt within the ensuing 12 mo [67]. Thus, although predictive of suicide over time, these tools are less likely to be helpful in identifying imminent suicide risk, which is the focus in clinical practice.

Misclassification of risk can also occur when there are few response options. Research has found that misclassification of risk decreased when providing participants with multiple response options across more than one item [68]. Of note, using a single-item measure has been proposed as potentially improving the detection of individuals at-risk for attempting suicide, though multi-item self-report measures and/or clinical interviews appear to elicit information that will lead to more accurate classifications of suicide-related thoughts and behaviors than single-item measures [68,69].

Screening recommendations

There are multiple screening tools that can be used to screen for suicidal thoughts and behaviors [70]. We recommend that sleep clinicians utilize a depression screening instrument that includes an item querying about suicide ideation for every new sleep evaluation (e.g., PHQ-9 or the BDI; see Fig. 1 for a flow chart of our recommendations). If a patient is in need of further assessment (i.e., suicide item is endorsed), we recommend the use of the Columbia suicide severity rating scale primary care screen with triage points (C-SSRS; see Table 1) when screening for suicide risk. These recommendations are consistent with another recent article calling for the use of a depression screener (PHQ-9) followed by the C-SSRS in the management of suicide risk for outpatient medical providers [71].

We recommend the C-SSRS for a couple reasons. First, when used for screening suicide risk in an outpatient setting, the C-SSRS generates less false-positives than item 9 from the PHQ-9 [72]. The specificity of the C-SSRS in one study was 95% compared to 81% for the PHQ-9 and sensitivity to detect risk was



Note. PHQ-9: Patient health questionnaire-9; BDI: Beck depression inventory; C-SSRS: Columbia suicide severity rating scale.

Fig. 1. Recommended procedure for every new sleep evaluation.

92% for the PHQ-9 and 95% for the C-SSRS [72]. Second, the C-SSRS has demonstrated adequate predictive validity and can screen for variables predictive of suicide risk that will be missed when using depression measures as screeners [73–75]. A general query about current suicide ideation by clinicians unfamiliar with suicidology may sacrifice opportunities to obtain information that is predictive of an impending suicide attempt, such as suicide ideation severity [76], intent to attempt suicide [77], or preparatory behaviors [78,79] (e.g., writing a suicide note, acquiring access to a particular suicide attempt method, etc.). Additionally, it is important to consider that some suicide decedents in treatment (inpatient and outpatient) denied suicide

ideation during their last therapy session prior to fatally attempting suicide [80]. This is one reason why it is important to go beyond a single question and collect information about past ideation, intent, and suicide-related behavior.

Finally, we recommend that sleep clinicians conduct repeat suicide risk screenings on return appointments for patients that have previously endorsed suicide risk, especially when sleep patients report a worsening of sleep problems. This recommendation is given in light of research suggesting that sleep disturbances may be proximal risk factors for suicide [13,23]. For instance, adolescent suicide decedents were more likely than controls to experience sleep disturbances (insomnia and

Table 1
Columbia-Suicide Severity Rating Scale: Primary care screen with triage points.

SUICIDE IDEATION DEFINITIONS AND PROMPTS:	Past month	
	YES	NO
Ask questions that are in bold and underlined.		
Ask Questions 1 and 2		
1) Wish to be Dead: Person endorses thoughts about a wish to be dead or not alive anymore, or wish to fall asleep and not wake up? <u>Have you wished you were dead or wished you could go to sleep and not wake up?</u>		
2) Suicidal Thoughts: General non-specific thoughts of wanting to end one's life/commit suicide, "I've thought about killing myself" without general thoughts of ways to kill oneself/associated methods, intent, or plan." <u>Have you had any actual thoughts of killing yourself?</u>		
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.		
3) Suicidal Thoughts with Method (without Specific Plan or Intent to Act): Person endorses thoughts of suicide and has thought of a least one method during the assessment period. This is different than a specific plan with time, place or method details worked out. "I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it....and I would never go through with it." <u>Have you been thinking about how you might do this?</u>		

(continued on next page)

Table 1 (continued)

SUICIDE IDEATION DEFINITIONS AND PROMPTS:		Past month	
Ask questions that are in bold and underlined.		YES	NO
4) Suicidal Intent (without Specific Plan): Active suicidal thoughts of killing oneself and patient reports having <u>some intent to act on such thoughts</u> , as oppose to “ <i>I have the thoughts but I definitely will not do anything about them.</i> ” <u>Have you had these thoughts and had some intention of acting on them?</u>			
5) Suicide Intent with Specific Plan: Thoughts of killing oneself with details of plan fully or partially worked out and person has some intent to carry it out. <u>Have you started to work out or worked out the details of how to kill yourself?</u> <u>Do you intend to carry out this plan?</u>			
6) Suicide Behavior Question <u>Have you ever done anything, started to do anything, or prepared to do anything to end your life?</u> Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn’t swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn’t jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc. If YES, ask: <u>Was this within the past 3 months?</u>		Lifetime	
		Past 3 Months	

Note. Columbia suicide severity rating scale: Primary care screen with triage points reproduced with permission from Adam Lesser, LCSW (on behalf of Kelly Posner, Ph.D.) on March 16, 2017.

hypersomnia) that intensified the week preceding their fatal suicide attempt [31]. Sleep clinicians are advised to follow the protocol outlined above when conducting repeat screenings. Of note, there is a “Since Last Contact” version of the C-SSRS that sleep clinicians can use while also utilizing the triage guide included in the primary care screen. We want to emphasize, however, that these recommendations are pending empirical support in sleep medicine settings. Future research is needed in order to evaluate the effectiveness of the proposed approach and identify any implementation barriers that arise for sleep medicine professionals.

Other considered instruments

There are other instruments available that measure suicide risk such as the Suicide behaviors questionnaire-revised (SBQ-R) [81] or the Suicide status form (SSF), which is part of a larger clinical framework called the Collaborative assessment and management of suicidality (CAMS) [82]. The SBQ-R is a validated and reliable measure consisting of four questions assessing thoughts and behaviors related to suicide and used to differentiate those that are at risk and those that are not. An advantage of the SBQ-R, is that it is readily available online and easy to use. However, it is disadvantaged by

being a lifetime measure of suicide risk instead of an imminent measure. Thus, like the PHQ-9, although it may be predictive of suicide in the future, it does not provide information regarding whether suicide is about to occur.

The SSF is another valid and reliable tool used to identify suicide risk and guide a collaborative assessment and management of suicide risk [83]. The benefits of this measure is that it provides in-depth information regarding the patient's risk level, including suicide-related thoughts and behaviors and reasons for living and dying. The drawback is that this tool is designed to assess rather than quickly screen for suicide risk and is used within the larger clinical framework of CAMS, which requires training and ongoing collaboration between the mental health provider and the patient [82].

These other measures, although useful, present the challenge of finding the balance between enough information to understand the nuances of suicide risk while also providing a concise and efficient method of data collection without necessitating an ongoing therapeutic relationship. As such, despite these being strong tools, we believe the C-SSRS is the best choice for most sleep practices.

The Columbia suicide severity rating scale

The C-SSRS was designed as a structured, rater-based assessment meant to provide a standard nomenclature that can guide assessment and differentiate individuals with suicide ideation with varying levels of suicide risk [84]. The measure can be accessed online, is free for professionals to use, and versions of the C-SSRS are available that can be administered by non-clinicians and laypersons [85]. In addition, information about its implementation can be readily obtained via free, online tutorials. Furthermore, the C-SSRS has been endorsed by the United States Food and Drug Administration as a suitable suicide risk screening tool in registration clinical trials for new psychotropic medications [86].

Table 2 outlines a C-SSRS screening response protocol. The screening version of the measure can be completed quickly, with administration varying from a minimum of three questions to a maximum of six questions. Questions cover general thoughts about death, passive thoughts of suicide, the specific suicide attempt methods considered, intent to attempt suicide with or without a specified plan, and history of suicide-related behavior. Discrimination between acute and non-acute risk can be made based on patient responses. Endorsements of suicide ideation with any intent to attempt (i.e., questions 4 and 5) and/or past suicide-related behavior within past 3 mo (i.e., question 6) warrant the need for immediate action that should coincide with organizational policies regarding patient safety and the assessment and management of acute suicide risk [87].

Referral recommendations

We recommend a referral to a licensed mental health professional for all levels of risk (i.e., endorsements on any of the six questions) in order to further evaluate suicide risk and collaboratively determine the appropriate treatment setting. We offer this recommendation given the changeability between the desire to live or die among people who experience suicidal ideation with or without an attempt history [88] and the research literature we reviewed linking suicide risk with sleep disturbance. Regarding acute suicide risk, though, we strongly recommend having someone available in your office to escort patients with acute suicide risk to an emergency room for an immediate and comprehensive suicide risk assessment if positive responses are given for questions 4, 5, or 6.

It is difficult to determine the frequency of patients with suicide risk given the paucity of research exploring suicide

Table 2
Columbia Suicide Severity Rating Scale screening response protocol.

Last Item Marked “Yes”	Response
Item 1	Behavioral Health Referral
Item 2	Behavioral Health Referral
Item 3	Behavioral Health Consult ^a and consider Patient Safety Precautions
Item 4	Behavioral Health Consult ^a and Patient Safety Precautions
Item 5	Behavioral Health Consult ^a and Patient Safety Precautions
Item 6	Behavioral Health Consult ^a and consider Patient Safety Precautions
Item 6 (3 mo ago or less)	Behavioral Health Consult ^a and Patient Safety Precautions

Note. Response protocol adapted with permission from Adam Lesser, LCSW (on behalf of Kelly Posner, Ph.D.) on March 16, 2017.

^a Psychologist, Psychiatric Nurse, Licensed Clinical Social Worker.

ideation prevalence in sleep clinics. Anecdotal reports suggest that sleep clinicians will infrequently encounter patients with imminent intent to attempt suicide, instances that would warrant emergent action. These actions can include emergency department referral, involuntary hospitalization, a same-day visit with the patient's established psychiatrist, or a same-day visit in a walk-in outpatient psychiatric clinic. However, it is important to highlight that not all endorsements of suicide ideation are emergencies nor will they necessitate hospitalization. We suggest a mental health referral if any level of suicide risk is endorsed, whether the risk seems imminent or the patient is presenting with passive thoughts of suicide without a plan or identified attempt method(s). To ensure thorough services are provided by their sleep practice, we also encourage sleep physicians to review complimentary resources, such as the Suicide prevention toolkit for primary care practices [89], to guide the development of suicide prevention policies within their practice. These toolkits include sample suicide prevention protocols for your office, modules focused on educating clinicians and office staff about suicide prevention, sample letters to assist with developing partnerships with local mental health providers, patient management tools, self-care resources, and patient education information about suicide prevention.

Concerns about iatrogenic effects

One concern that may still percolate in some settings is the idea that assessing for and/or discussing suicide may increase suicide risk. The results of several studies have shown that screening for or assessing suicide risk does not lead one to begin thinking of suicide, nor does it increase suicide risk [90–92] and may even provide small benefits [93]. No research thus far has shown that asking a patient about current or past thoughts of attempting suicide can lead one to seriously consider attempting later.

Fear of legal action is shared among health professionals who work with at risk patients [94] and patients fatally or non-fatally attempting suicide often are common reasons for litigation among health professionals working with psychiatric patients [95]. Regarding liability [96], this often occurs “when patients are not assessed carefully and when there are no adequate records documenting the management plan” (p. 245). Therefore, it seems paramount to the safety of the patient and the legal safety of the sleep clinician to have a means of screening and documenting suicide risk that follows the best available research (see Table 3 for documentation recommendations).

With the patient's safety as a guide to our screening, assessment, and documentation practices, we also recommend that

Table 3
Documentation recommendations for suicide risk screenings.

Suicide-related Item	What to Document
Suicide ideation	Endorsement or denial of a wish to die <i>and</i> thoughts about attempting suicide.
Suicide attempt plan	Details of the patient's plan, including all suicide attempt methods and how the patient would access the identified methods.
Suicidal intent	Endorsement or denial of intent to follow through with suicide attempt plan(s).
Recent suicide attempts	Endorsement or denial of a nonfatal suicide attempt that occurred within the past year <i>and/or</i> the last three months. Also include the number of attempts (if more than one) and inquire about any precipitating events, attempt methods used (and how access was obtained), and the patient's attitude toward being alive following the attempt.
Suicide attempt history	Endorsement or denial of a nonfatal suicide attempt that occurred more than a year ago. Also include the number of attempts (if more than one) and inquire about any precipitating events, attempt methods used (and how access was obtained), and the patient's attitude toward being alive following the attempt.
Suicide risk and protective factors Screening response decision	Endorsement or denial of any suicide risk or protective factors that are discussed. Your final decision with a justification informed by the patient's history, screening responses, and relevant information obtained from follow-up questions.

sleep physicians consider that idiosyncratic cases of emergent suicide-related thoughts and behaviors may occur with standard treatment [53]. In such cases, when a suicide attempt may be imminent, we recommend that patients receive rapid follow up with a licensed and qualified professional, receive limited supplies of hypnotic medications (if currently prescribed) to decrease the risk of parasomnia behavior and self-injury risk [53,54], and be re-screened for suicide risk at subsequent appointments.

The clinician-patient alliance

Last, but certainly not least, the clinician-patient alliance should be considered when developing policies for addressing suicide risk within the sleep medicine clinic. Trust and clinician genuineness have been shown to be important factors in eliciting honest disclosures during suicide risk screenings. In one sample of 34 veterans [97], participants accepted the need for screening, but were substantially more likely to report suicidal ideation when the clinician displayed genuine concern and offered a rationale for performing the assessment rather than performing a rote or templated assessment [98]. It is deemed important to see suicide risk “through the eyes of the patient” [99] (p. 206) and to include the patient as an “active participant” in the risk assessment process. Patients should be seen as partners in the decision-making process that ensues from the screening and risk assessment and formulation. As Fowler [100] notes: “Unnecessary hospitalization can lead to a sense of betrayal, alliance ruptures, unilateral termination of treatment, and conceivably, an inadvertent stressful life event that increases future suicide risk” (p. 88).

Clinical implications

Suicide has been increasing in the United States over the past decade [2], and it is becoming apparent that we need to

find new and improved ways to identify and intervene with individuals at risk of suicide. In this vein, sleep medicine has the potential to play an important role in helping to bend the curve. As was outlined previously, sleep disorders are associated with suicidal behavior, often independent of other forms of psychopathology [39]. As such, there are suicidal patients who will report to a sleep clinic who will not have a reason to report to a mental health practitioner's office. This presents sleep clinics with the opportunity, and perhaps even the obligation, to make a difference through helping to identify patients who are at risk and refer them for further treatment. Although the literature on screening is still insufficient, it is the current best practice, and research has shown that asking about suicide will not increase risk, but may actually reduce suicide risk [92,93]. It is our hope that this article will assist sleep clinics in adopting suicide risk screening practices by providing useful suggestions for where these clinics can start in order to be in line with best practice.

Practice points

- Sleep disturbances in general are both a risk factor and potential warning sign for suicide.
- Not all patients presenting with suicide risk will have a history of psychiatric illness.
- Using evidence-based risk screening tools, such as the Columbia suicide severity rating scale (C-SSRS), is recommended despite insufficient evidence to date on the outcomes of suicide risk screening.
- We recommend that sleep clinicians be aware of idiosyncratic instances of emergent suicide risk that could result as part of standard care and monitor patient access to hypnotic medications during high-risk periods due to increased risk for inducing parasomnia and self-injurious behavior.
- For sleep clinic professionals who do not have the time to comprehensively assess and manage suicide risk, implementing suicide prevention policies within their departments/clinics is recommended, along with following the best available evidence to inform these policies.

Research agenda

Future research is needed in order to understand:

- The prevalence of suicide risk among patients presenting to sleep clinics;
- The effectiveness of screening for suicide risk among sleep patients;
- The facilitators and barriers that arise for sleep medicine professionals when screening for suicide risk in their patients and implementing suicide prevention policies in their practice settings.

Conflicts of interest

The authors do not have any conflicts of interest to disclose.

References

- [1] Bernert RA, Nadorff MR. Sleep disturbances and suicide risk. *Sleep Med Clin* 2015;10(1):35–9.
- [2] Ivey-Stephenson AZ, Crosby AE, Jack SPD, Haileyesus T, Kresnow-Sedacca M-J. Suicide trends among and within urbanization levels by sex, race/ethnicity, age group, and mechanism of death: United States, 2001–2015. *MMWR Surveill Summ* 2017;66(SS-18):1–16.
- *[3] Ford ES, Wheaton AG, Cunningham TJ, Giles WH, Chapman DP, Croft JB. Trends in outpatient visits for insomnia, sleep apnea, and prescriptions for sleep medications among US adults: findings from the National Ambulatory Medical Care survey 1999–2010. *Sleep* 2014;37(8):1283–93.
- *[4] U.S. Department of Health and Human Services (HHS). Office of the surgeon general and national action alliance for suicide prevention. 2012 national strategy for suicide prevention: goals and objectives for action. Washington, DC: HHS; 2012 Sept.
- [5] Spiegelhalter K, Regen W, Nanovska S, Baglioni C, Riemann D. Comorbid sleep disorders in neuropsychiatric disorders across the life cycle. *Curr Psychiatry Rep* 2013;15(364):1–6.
- [6] Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. *Am J Psychiatry* 2002;159(6):909–16.
- [7] Leavey G, Rosato M, Galway K, Hughes L, Mallon S, Rondon J. Patterns and predictors of help-seeking contacts with health services and general practitioner detection of suicidality prior to suicide: a cohort analysis of suicides occurring over a two-year period. *BMC Psychiatry* 2016;16(120):1–8.
- [8] Pearson A, Saini P, Da Cruz D, Miles C, While D, Swinson N, et al. Primary care contact prior to suicide in individuals with mental illness. *Br J Gen Pract* 2009;59(568):825–32.
- [9] Hochman E, Shelef L, Mann JJ, Portugese S, Krivoy A, Shoval G. Primary health care utilization prior to suicide: a retrospective case-control study among active-duty military personnel. *J Clin Psychiatry* 2014;75(8):e817–23.
- [10] Rodi PM, Roškar S, Marušić A. Suicide victims' last contact with the primary care physician: report from Slovenia. *Int J Soc Psychiatry* 2010;56(3):280–7.
- [11] Zalsman G, Hawton K, Wasserman D, van Heeringen K, Arensman E, Sarchiapone M, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry* 2016;3(7):646–59.
- *[12] The Joint Commission. Detecting and treating suicide ideation in all settings. Sentinel Event Alert 2016 Feb;56:1–7.
- [13] Berman AL. Risk factors proximate to suicide and suicide risk assessment in the context of denied suicide ideation. *Suicide Life Threat Behav* 2018;48(3):340–52.
- [14] Silverman MM, Berman AL, Sanddal ND, O'Carroll PW, Joiner TE. Rebuilding the tower of babel: a revised nomenclature for the study of suicide and suicidal behaviors. Part 1: background, rationale, and methodology. *Suicide Life Threat Behav* 2007;37(3):248–63.
- [15] Silverman MM, Berman AL, Sanddal ND, O'Carroll PW, Joiner TE. Rebuilding the tower of babel: a revised nomenclature for the study of suicide and suicidal behaviors. Part 2: suicide-related ideations, communications, and behaviors. *Suicide Life Threat Behav* 2007;37(3):264–77.
- [16] Crosby AE, Ortega L, Melanson C. Self-directed violence surveillance: uniform definitions and recommended data elements, version 1.0. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2011.
- [17] Otto U. Changes in the behavior of children and adolescents preceding suicidal attempts. *Acta Psychiatr Scand* 1964;40(4):386–400.
- *[18] Bernert RA, Kim JS, Iwata NG, Perlis ML. Sleep disturbances as an evidence-based suicide risk factor. *Curr Psychiatry Rep* 2015;17(15):1–9.
- *[19] Pigeon WR, Bishop TM, Titus CE. The relationship between sleep disturbance, suicidal ideation, suicide attempts, and suicide among adults: a systematic review. *Psychiatr Ann* 2016;46(3):177–86.
- [20] American Association of Suicidology, National Center for the Prevention of Youth Suicide. Warning signs & risk factors. 2015. <http://www.suicidology.org/ncpys/warning-signs-risk-factors>.
- [21] Pigeon WR, Pinquart M, Conner K. Meta-analysis of sleep disturbance and suicidal thoughts and behaviors. *J Clin Psychiatry* 2012;73(9):e1160–7.
- [22] American Psychiatric Association. In: Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: Author; 2013.
- [23] Pigeon WR, Britton PC, Ilgen MA, Chapman B, Conner KR. Sleep disturbance preceding suicide among veterans. *Am J Public Health* 2012;102(S1):S93–7.
- [24] Bishop TM, Ashrafoun L, Pigeon WR. The association between sleep apnea and suicidal thought and behavior: an analysis of national survey data. *J Clin Psychiatry* 2018;79(1).
- [25] Krakow B, Artar A, Warner TD, Melendrez D, Johnston L, Hollifield M, et al. Sleep disorder, depression, and suicidality in female sexual assault survivors. *Crisis* 2000;21(4):163–70.
- [26] Hagen C, Patel A, McCall WV. Prevalence of insomnia symptoms in sleep laboratory patients with and without sleep apnea. *Psychiatry Res* 2009;170(2–3):276–7.
- [27] Smith S, Sullivan K, Hopkins W, Douglas J. Frequency of insomnia report in patients with obstructive sleep apnoea hypopnea syndrome (OSAHS). *Sleep Med* 2004;5(5):449–56.
- [28] Winkelmann J, Prager M, Lieb R, Pfister H, Spiegel B, Wittchen HU, et al. "Anxietas Tibiarum:" Depression and anxiety disorders in patients with restless legs syndrome. *J Neurol* 2005;252(1):67–71.
- [29] Ohayon MM, Black J, Lai C, Eller M, Guinda D, Bhattacharyya A. Increased mortality in narcolepsy. *Sleep* 2014;37(3):439–44.
- [30] Ohayon MM. A longitudinal study of 322 individuals with narcolepsy. *Ann Neurol* 2012;72(suppl S16):S2.
- [31] Goldstein TR, Bridge JA, Brent DA. Sleep disturbance preceding completed suicide in adolescents. *J Consult Clin Psychol* 2008;76(1):84–91.
- [32] Ribeiro JD, Pease JL, Gutierrez PM, Silva C, Bernert RA, Rudd MD, et al. Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictors of suicidal ideation and behavior in young adults in the military. *J Affect Disord* 2012;136(3):743–50.
- [33] Wojnar M, Ilgen MA, Wojnar J, McCommon RJ, Valenstein M, Brower KJ. Sleep problems and suicidality in the national comorbidity survey replication. *J Psychiatr Res* 2009;43(5):526–31.
- [34] McCall WV, Blocker JN, D'Agostino R, Kimball J, Boggs N, Lasater B, et al. Insomnia severity is an indicator of suicidal ideation during a depression clinical trial. *Sleep Med* 2010;11(9):822–7.
- [35] Pompili M, Innamorati M, Forte A, Longo L, Mazzetta C, Erbutto D, et al. Insomnia as a predictor of high-lethality suicide attempts. *Int J Clin Pract* 2013;67(12):1311–6.
- [36] Kay DB, Dombrowski AY, Buysse DJ, Reynolds CF, Begley A, Szanto K. Insomnia is associated with suicide attempt in middle-aged and older adults with depression. *Int Psychogeriatr* 2016;28(4):613–9.
- [37] Perlis ML, Grandner MA, Chakravorty S, Bernert RA, Brown GK, Thase ME. Suicide and sleep: is it a bad thing to be awake when reason sleeps? *Sleep Med Rev* 2016;29:101–7.
- [38] McCall WV, Batson N, Webster M, Case LD, Joshi I, Derreberry T, et al. Nightmares and dysfunctional beliefs about sleep mediate the effect of insomnia symptoms on suicidal ideation. *J Clin Sleep Med* 2013;9(2):135–40.
- *[39] Drapeau CW, Nadorff MR. Suicidality in sleep disorders: prevalence, impact, and management strategies. *Nat Sci Sleep* 2017;9:213–26.
- [40] Sjöström A, Hetta J, Waern M. Persistent nightmares are associated with repeat suicide attempt: a prospective study. *Psychiatry Res* 2009;170(2–3):208–11.
- [41] Tanskanen A, Tuomilehto J, Viinamäki H, Vartiainen E, Lehtonen J, Puska P. Nightmares as predictors of suicide. *Sleep* 2001;24(7):844–7.
- [42] Agargun MY, Besiroglu L, Cilli AS, Gulec M, Aydin A, Inci R, et al. Nightmares, suicide attempts, and melancholic features in patients with unipolar major depression. *J Affect Disord* 2007;98(3):267–70.
- [43] Golding S, Nadorff MR, Winer ES, Ward KC. Unpacking sleep and suicide in older adults in a combined online sample. *J Clin Sleep Med* 2015;11(12):1385–92.
- [44] Nadorff MR, Nazem S, Fiske A. Insomnia symptoms, nightmares, and suicide risk: duration of sleep disturbance matters. *Suicide Life Threat Behav* 2013;43(2):139–49.
- [45] Littlewood DL, Gooding PA, Panagioti M, Kyle SD. Nightmares and suicide in posttraumatic stress disorder: the mediating role of defeat, entrapment, and hopelessness. *J Clin Sleep Med* 2016;12(3):393–9.
- *[46] Nadorff MR, Pearson MD, Golding S. Explaining the relation between nightmares and suicide. *J Clin Sleep Med* 2016;12(3):289–90.
- [47] Chellappa SL, Araujo JF. Excessive daytime sleepiness in patients with depressive disorder. *Rev Bras Psiquiatr* 2006;28(2):126–9.
- [48] Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). 2018. www.cdc.gov/ncipc/wisqars.
- [49] Walsh JK, Roth T. Pharmacologic treatment of insomnia: benzodiazepine receptor agonists. In: Kryger M, Roth T, Dement W, editors. Principles and Practice of sleep medicine. 5th ed. Philadelphia: WB Saunders; 2011. p. 905–15.
- [50] Mallon L, Broman J-E, Hetta J. Is usage of hypnotics associated with mortality? *Sleep Med* 2009;10(3):279–86.
- [51] Carlsten A, Waern M. Are sedatives and hypnotics associated with increased suicide risk in the elderly? *BMC Geriatr* 2009;9:20.
- [52] Brower KJ, McCommon RJ, Wojnar M, Ilgen MA, Wojnar J, Valenstein M. Prescription sleeping pills, insomnia, and suicidality in the national comorbidity survey replication. *J Clin Psychiatry* 2011;72(4):515–21.
- *[53] McCall WV, Benca RM, Rosenquist PB, Riley MA, McCloud L, Newman JC, et al. Hypnotic medications and suicide: risk, mechanisms, mitigation, and the FDA. *Am J Psychiatry* 2017;174(1):18–25.
- [54] Pennington JG, Guina J. Eszopiclone-induced parasomnia with suicide attempt: a case report. *Innov Clin Neurosci* 2016;13(9–10):44–8.
- [55] Roth T, Jaeger S, Jin R, Kalsekar A, Stang PE, Kessler RC. Sleep problems, comorbid mental disorders, and role functioning in the National Comorbidity Survey Replication (NCS-R). *Biol Psychiatry* 2006;60(12):1364–71.
- [56] Bertolote JM, Fleischmann A, De Leo D, Wasserman D. Psychiatric diagnoses and suicide: revisiting the evidence. *Crisis* 2004;25(4):147–55.

* The most important references are denoted by an asterisk.

- [57] Chesney E, Goodwin GM, Fazel S. Risks of all-cause and suicide mortality in mental disorders: a meta-review. *World Psychiatry* 2014;13(2):153–60.
- [58] Nock MK, Hwang I, Sampson NA, Kessler RC. Mental disorders, comorbidity and suicidal behavior: results from the national comorbidity survey replication. *Mol Psychiatry* 2010;15(8):868–76.
- [59] LeFevre ML. Screening for suicide risk in adolescents, adults, and older adults in primary care: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2014;160(10):719–26.
- [60] Harris KM, Goh MT-T. Is suicide assessment harmful to participants? Findings from a randomized controlled trial. *Int J Ment Health Nurs* 2017;26(2):181–90.
- [61] Feldman MD, Franks P, Duberstein PR, Vannoy S, Epstein R, Kravitz R. Let's not talk about it: suicide inquiry in primary care. *Ann Fam Med* 2007;5(5):412–8.
- [62] Horowitz LM, Snyder D, Ludi E, Rosenstein DL, Kohn-Godbout J, Lee L, et al. Ask suicide-screening questions to everyone in medical settings: the asQ'em Quality Improvement Project. *Psychosomatics* 2013;54(3):239–47.
- [63] Horowitz L, Ballard E, Teach SJ, Bosk A, Rosenstein DL, Joshi P, et al. Feasibility of screening patients with nonpsychiatric complaints for suicide risk in a pediatric emergency department: a good time to talk? *Pediatr Emerg Care* 2010;26(11):787–92.
- [64] Simon GE, Rutter CM, Peterson D, Oliver M, Whiteside U, Operskalski B, et al. Does response on the PHQ-9 depression questionnaire predict subsequent suicide attempt or suicide death? *Psychiatr Serv* 2013;64(12):1195–202.
- [65] Suarez L, Beach SR, Moore SV, Mastromauro CA, Januzzi JL, Celano CM, et al. Use of the Patient Health Questionnaire-9 and a detailed suicide evaluation in determining imminent suicidality in distressed patients with chronic disease. *Psychosomatics* 2015;56(2):181–9.
- [66] Simon GE, Coleman KJ, Rossom RC, Beck A, Oliver M, Johnson E, et al. Risk of suicide attempt and suicide death following completion of the Patient Health Questionnaire depression module in community practice. *J Clin Psychiatry* 2016;77(2):221–7.
- [67] Arias SA, Miller I, Camargo CA, Sullivan AF, Goldstein AB, Allen MH, et al. Factors associated with suicide outcomes 12 months after screening positive for suicide risk in the emergency department. *Psychiatr Serv* 2016;67(2):206–13.
- *[68] Millner AJ, Lee MD, Nock MK. Single-item measurement of suicidal behaviors: validity and consequences of misclassification. *PLoS One* 2015;10(10):e0141606.
- [69] Hom MA, Joiner TE, Bernert RA. Limitations of a single-item assessment of suicide attempt history: implications for standardized suicide risk assessment. *Psychol Assess* 2016;28(8):1026–30.
- [70] Brown GK. A review of suicide assessment measures for intervention research with adults and older adults. National Institute of Mental Health; 2000.
- [71] Weber AN, Michail M, Thompson A, Fiedorowicz JG. Psychiatric emergencies: assessing and managing suicidal ideation. *Med Clin North Am* 2017;101(3):553–71.
- [72] Viguera AC, Milano N, Ralston L, Thompson NR, Griffith SD, Baldessarini RJ, et al. Comparison of electronic screening for suicidal risk with the patient health questionnaire item 9 and the Columbia suicide severity rating scale in an outpatient psychiatric clinic. *Psychosomatics* 2015;56(5):460–9.
- [73] Gipson PY, Agarwala P, Opperman KJ, Horwitz A, King CA. Columbia-Suicide Severity Rating Scale: predictive validity with adolescent psychiatric emergency patients. *Pediatr Emerg Care* 2015;31(2):88–94.
- [74] Mundt JC, Greist JH, Jefferson JW, Federico M, Mann JJ, Posner K. Prediction of suicidal behavior in clinical research by lifetime suicidal ideation and behavior ascertained by the electronic Columbia-Suicide Severity Rating Scale. *J Clin Psychiatry* 2013;74(9):887–93.
- [75] Posner K, Brown GK, Stanley B, Brent DA, Yershova KV, Oquendo MA, et al. The Columbia–suicide severity rating scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults. *Am J Psychiatry* 2011;168(12):1266–77.
- [76] Beck AT, Brown GK, Steer RA, Dahlskaard KK, Grisham JR. Suicide ideation at its worst point: a predictor of eventual suicide in psychiatric outpatients. *Suicide Life Threat Behav* 1999;29(1):1–9.
- [77] Greist JH, Mundt JC, Gwaltney CJ, Jefferson JW, Posner K. Predictive value of baseline electronic Columbia-Suicide Severity Rating Scale (eC-SSRS) assessments for identifying risk of prospective reports of suicidal behavior during research participation. *Innov Clin Neurosci* 2014;11(9–10):23–31.
- [78] Rudd MD, Berman AL, Joiner TE, Nock MK, Silverman MM, Mandrusiak M, et al. Warning signs for suicide: theory, research, and clinical applications. *Suicide Life Threat Behav* 2006;36(3):255–62.
- [79] Steer RA, Beck AT, Garrison B, Lester D. Eventual suicide in interrupted and uninterrupted attempters: a challenge to the Cry-for-Help hypothesis. *Suicide Life Threat Behav* 1988;18(2):119–28.
- [80] Isometsä ET, Heikkinen ME, Marttunen MJ, Henriksson MM, Aro HM, Lönnqvist JK. The last appointment before suicide: is suicide intent communicated? *Am J Psychiatry* 1995;152(6):919–22.
- [81] Osman A, Bagge CL, Gutierrez PM, Konick LC, Kopper BA, Barrios FX. The suicidal behaviors questionnaire-revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment* 2001;8(4):443–54.
- [82] Jobs DA. The CAMS approach to suicide risk: philosophy and clinical procedures. *Suicidologi* 2009;14(1):3–7.
- [83] Conrad AK, Jacoby AM, Jobs DA, Lineberry TW, Shea CE, Arnold Ewing TD, et al. A psychometric investigation of the suicide status form II with a psychiatric inpatient sample. *Suicide Life Threat Behav* 2009;39(3):307–20.
- [84] Yershova K, Lesser A, Logan K, Posner K. Asking about suicide as suicide prevention: the Columbia suicide severity rating scale (C-SSRS). In: Courtet P, editor. *Understanding suicide: from diagnosis to personalized treatment*. Switzerland: Springer International Publishing; 2016.
- [85] The Columbia Lighthouse Project. C-SSRS for Communities and Healthcare. n.d.; <http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/cssrs-for-communities-and-healthcare/#filter=general-use.english>.
- [86] United States Food and Drug Administration. Guidance for industry: suicidal ideation and behavior: prospective assessment of occurrence in clinical trials, draft guidance. 2012. <https://www.fda.gov>.
- [87] The Columbia Lighthouse Project. Clinical triage guidelines using the C-SSRS. n.d. <http://cssrs.columbia.edu/>.
- [88] Bryan CJ, Rudd MD, Peterson AL, Young-McCaughan S, Wertenberger EG. The ebb and flow of the wish to live and the wish to die among suicidal military personnel. *J Affect Disord* 2016;202:58–66.
- *[89] Western Interstate Commission for Higher Education, Suicide Prevention Resource Center. Suicide prevention toolkit for primary care practices. A guide for primary care providers and medical practice managers (Rev. ed.). Boulder, Colorado: Authors; 2017.
- [90] Gould MS, Marrocco FA, Kleinman M, Thomas JG, Mostkoff K, Cote J, et al. Evaluating iatrogenic risk of youth suicide screening programs: a randomized controlled trial. *JAMA* 2005;293(13):1635–43.
- [91] Crawford MJ, Thana L, Methuen C, Ghosh P, Stanley SV, Ross J, et al. Impact of screening for risk of suicide: randomised controlled trial. *Br J Psychiatry* 2011;198(5):379–84.
- [92] Eynan R, Bergmans Y, Antony J, Cutcliffe HG, Harder HG, Ambreen M, et al. The effects of suicide ideation assessments on urges to self-harm and suicide. *Crisis* 2014;35(2):123–31.
- [93] Blades CA, Stritzke WKG, Page AC, Brown JD. The benefits and risks of asking research participants about suicide: a meta-analysis of the impact of exposure to suicide-related content. *Clin Psychol Rev* 2018;64:1–12.
- [94] King CA, Foster CE, Rogalski KM. *Teen suicide risk: a practitioner guide to screening, assessment, and management*. New York, NY: The Guilford Press; 2013.
- [95] Simon RI, Shuman DW. Therapeutic risk management of clinical-legal dilemmas: should it be a core competency? *J Am Acad Psychiatry Law* 2009;37(2):155–61.
- [96] Paris J. Is hospitalization useful for suicidal patients with borderline personality disorder? *J Pers Disord* 2004;18(3):240–7.
- [97] Ganzini L, Denneson LM, Press N, Bair MJ, Helmer DA, Poat J, et al. Trust is the basis for effective suicide risk screening and assessment in veterans. *J Gen Intern Med* 2013;28(9):1215–21.
- [98] Berman AL. Risk management with suicidal patients. *J Clin Psychol* 2006;62(2):171–84.
- [99] Jobs DA. Suicidal patients, the therapeutic alliance, and the collaborative assessment and management of suicidality. In: Michel K, Jobs DA, editors. *Building a therapeutic alliance with the suicidal patient*. Washington, DC: American Psychological Association; 2011.
- [100] Fowler JC. Suicide risk assessment in clinical practice: pragmatic guidelines for imperfect assessments. *Psychotherapy* 2012;49(1):81–90.