



Outcomes of Depression Screening for Adolescents Accessing Pediatric Primary Care–Based Services

Taskina Chowdhury, DNP, APRN, PNP-BC,
Jane Dimmitt Champion, PhD, DNP, FNP, AH-PMH-CNS, FAAN, FAANP*

School of Nursing, University of Texas at Austin, United States of America



ARTICLE INFO

Article history:
Received 27 August 2019
Revised 20 February 2020
Accepted 20 February 2020

Keywords:
Depression screening
Adolescence
Primary care–based services

ABSTRACT

Purpose: Assess outcomes of depression screening among adolescents accessing pediatric primary care–based services. These findings will contribute to development of clinical protocols for depression screening and intervention in primary care settings.

Design and methods: Retrospective chart review conducted via electronic medical records at a pediatric primary care–based clinic to extract PHQ-9 data for adolescents screened from 1/17/2018 to 4/18/2018. De-identified data included age, gender, ethnicity, provider, PHQ-9, and referral/follow-up/medication status.

Results: Data included 1213 adolescents of whom N = 600 were depressed without additional comorbidities; 96 adolescents had PHQ-9 scores >5. Descriptive analyses by age, gender, ethnicity, referral type, follow-up, and provider services identified targeted primary care–based interventions for depression and referral. Depression screening occurred primarily at well child visits. 82.5% of those with PHQ-9 scores >5 were not currently receiving treatment. Overall, referrals by physicians (45.8%) and nurse practitioners (42.9%) were equivalent with more referrals for adolescents with moderate–severe depression. Nurse practitioners provided more counseling than physicians among adolescents with mild to moderate depression.

Conclusions: Adolescent mental health necessitates an enhanced continuum of care. Primary care–based interventions provided by pediatric nurse practitioners are imperative to address adolescent mental health needs. Findings provide practical means to incorporate protocols for depression enhancing primary care–based mental health access.

Practice implications: Need for incorporation of practical modalities for depression assessment and follow up as recommended by American Academy of Pediatrics. Future study for comparison of methods (phone/text reminder, follow up appointment, online resource reminder, telehealth), indicated to enhance follow-up care for adolescents experiencing depression.

© 2020 Elsevier Inc. All rights reserved.

Background

The United States Preventive Services Task Force (USPSTF) (2018) has indicated a prevalence of depression among adolescents to be as high as 20%. It is reported that half of all mental health issues emerge by 14 years of age while 75% develop by 24 years of age (Jones, 2013). Adolescent depression is associated with suicidal ideation, self-injury, substance abuse, suicide, homicide, and academic under-achievement (Taliaferro et al., 2013). Suicide is the second leading cause of death in the United States among adolescents aged 15–19 years (Centers for Disease Control and Prevention, 2017). Depression is associated with a higher probability of alcohol, tobacco and other substance use and interpersonal violence among the adolescent population (Champion, Young,

& Rew, 2016; Collins & Champion, 2009; Jon-Ubabuco & Champion, 2019; Recto & Champion, 2017, 2018). Adolescent depression is associated with other chronic and acute conditions (e.g., obesity, diabetes, cardiovascular disease, human immunodeficiency virus/sexually transmitted infection) precipitating premature death (Champion, Pierce, & Collins, 2015). Adolescents with depressive symptoms who are not treated are at greater risk for developing depression in adulthood (Tsai et al., 2014). According to Mental Health America (MHA, 2017) youth data, 64.1% of youth with major depression did not receive any mental health treatment. This translates to six out of 10 youth with depression, who do not receive treatment.

The USPSTF (2018) has established evidence to support screening tests such as the Patient Health Questionnaire (PHQ-9) that can accurately identify major depressive disorder in adolescents (12–18 years) and that psychotherapy and collaborative care is beneficial. Although depression screening, diagnosis, treatment and follow-up potentially benefits adolescents experiencing depression, there are no national

* Corresponding author.
E-mail addresses: taskinac@utexas.edu (T. Chowdhury),
jchampion@mail.nur.utexas.edu (J.D. Champion).

recommendations regarding follow-up for adolescent depression screening. However, the American Academy of Pediatrics (AAP) has published guidelines for initial screening, diagnosis and treatment of adolescent depression. These guidelines include recommendations for the preparation of primary care practitioners for improved care of adolescents with depression, annual universal screening of youth 12 and over at health maintenance visits, the identification of depression in youth who are at high risk, systematic assessment procedures using reliable depression scales, patient and caregiver interviews, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* criteria, patient and family psychoeducation, establishment of relevant links in the community, and the establishment of a safety plan (Zuckerbrot et al., 2018).

The primary care-based setting is an ideal site for early identification of depression as 90% of United States youth regularly access pediatric primary care providers (Honigfeld, Macary, & Grasso, 2017). In addition, emergent evidence advocates for identification and management of adolescent depression by primary care providers (Bhatta, Champion, Young, & Loika, 2018; Zuckerbrot et al., 2018).

Theoretical framework

The Donabedian model provided the framework for assessment of mental health screening outcomes following PHQ-9 screening in a pediatric primary care-based setting. The model assesses outcomes via three factors: structure, process, and outcome. Structure includes resources in the organization such as staff; process describes implementation of a structure such as mental health screening; and outcome refers to the results of the process such as timely identification and management of mental health problems (Kunkel, Rosenqvist, & Westerling, 2007). This study applied the Donabedian model by assessing the outcome (referrals and follow-ups) of a process (mental health screenings using the PHQ-9) by staff/clinicians (nurse practitioners, physicians). The Donabedian model integrates the Plan-Do-Study-Act (PDSA) cycle to test changes on small scale (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2011). A review of relevant literature concerning the process for depression screening supported the problem identification and assessment of outcomes.

Available knowledge

Aalsma et al. (2018) reviewed the incorporation of a computer-based decision support system for depression screening utilizing the Child Health Improvement through Computer Automation system. This system, integrated in electronic medical records (EMR), generates appropriate follow up screening recommendations, tools and prompts to providers. For example, for individuals with a moderate PHQ-9 score, there is a reminder to follow up in 4–6 weeks, and check boxes to discuss lifestyle changes, provide crisis contact, treatment not interested, reviewed support handout, refer to psychotherapy or no depression. For patients with moderate or severe depression, there are reminders for labs and monitoring prompts for selective serotonin reuptake inhibitor, with check boxes to note if patients have specifically started on medication, are already on it, not depressed, labs ordered and follow up with adolescents beginning medication every two weeks until stable.

Weersing et al. (2017) assessed whether a pediatric-based behavioral intervention focusing on anxiety and depression improves clinical outcome compared to referral to outpatient community mental health care. Among youth aged 8–16.9 years, those in the brief behavioral intervention ($n = 95$), compared with those referred for community mental health care ($n = 90$), had significantly higher rates of clinical improvement (56.8% vs 28.2%; $\chi^2_1 = 13.09, P < .001$), greater reductions in symptoms, and better functioning. They found the brief behavioral treatment was far superior to the community mental health care referral.

The EMR prompts, reminders and handouts are all passive but proven methods for patient follow-up. Wright et al. (2016) utilized a care manager for follow up to confirm that patients were getting their medicine, provided with the needed psychotherapy and receiving successful coordination care among providers. This method of follow up resulted in a significant decrease in symptoms (70% intervention versus 40% usual care) by the end of one year.

Youth may readily access tele mental health through videoconferencing, due to their adaption to technology and feelings of being in control, particularly when accessing care from their own personal space (Grady et al., 2011). Incorporating telehealth kiosk in schools for those with high PHQ-9 scores may be an effective mean to enhance mental health compliance. Multiple compliance measures are required in schools including vaccinations, scoliosis and acanthosis nigricans screenings. Telehealth utilized in primary health care, currently treats commonly occurring ailments such as respiratory/ear/sinus infection, strep throat, flu, chronic condition and lice. Similar attention extended to mental health care is needed (Sivicki, 2018).

Unifying telepsychiatry by reducing on site visits and allowing remote access from schools may be beneficial to adolescents and prevent them from missing school. A summary of tele mental health service for adolescent revealed that video-conferencing was equal in satisfaction compared to a physical visit. Some parents preferred teleconference for its ease of access and appointment availability (Nelson & Sharp, 2016). Myers, Valentine, and Melzer (2007) concluded that video conferencing was feasible, acceptable and increased access to mental health service, especially among pediatric populations. Telehealth Kiosks set up in schools, may augment timely follow up and mental health care delivery to adolescents from primary care-based settings.

Purpose

Evolving research indicates adolescent depression leads to functional impairment and increased morbidity and mortality (MHA, 2017; Tsai et al., 2014). It is imperative to improve depression screening and treatment via primary care providers. The purpose of this study was to conduct a retrospective chart review to assess outcomes of depression screening among adolescents accessing pediatric primary-care based services. These findings contribute to the refinement of clinical protocols for depression screening, intervention and follow-up.

Methods

Measurement Instruments (PHQ-9)

The patient health questionnaire (PHQ) is a self-administered, 59 question version of the original Primary Care Evaluation of Mental Disorders instrument (Spitzer, Kroenke, Williams, and Patient Health Questionnaire Primary Care Study Group, 1999), developed and validated in the early 1990s to efficiently diagnose five of the most common types of mental conditions: depressive, anxiety, somatoform, alcohol, and eating disorders (Kroenke & Spitzer, 2002).

Spitzer et al. (1999) developed the PHQ 9, a subjective self-report with nine questions inquiring about a patient's mental health over the past two weeks. It includes nine short questions concerning depressive symptoms, rated in severity from 0 (not at all) to three (nearly every day). The PHQ-9 questions ask about interest or pleasure in doing things, feeling down, depressed or hopeless, trouble falling or staying asleep or sleeping too much, feeling tired or having little energy, poor appetite or overeating, feeling bad about yourself or that you are a failure or have let yourself or your family down, trouble concentrating on thoughts that you would be better off dead or thoughts of hurting yourself. A tallying of the total score represents the severity of depression as follows: 1–4 (minimal depression), 5–9 (mild depression), 10–14 (moderate depression), 15–19 (moderately severe depression), 20–27 (severe depression) (Kroenke & Spitzer, 2002). Sensitivity (89.5%) and specificity (78.8%) of the PHQ-9 among adolescent populations (Richardson et al., 2010) indicates it is a validated screening tool for adolescent depression in primary care settings.

Retrospective chart review

The authors conducted the retrospective chart review and corresponding data analysis. We submitted the study for review and obtained approval by the International Review Board prior to conduct of the retrospective chart review. We reviewed the EMR from 1/17/2018 to 4/18/2018 for adolescents ranging between the ages of 12–18 years old who received health care services at a pediatric primary care-based clinic in the Southwestern United States. We included only adolescents who had completed a PHQ-9 questionnaire and included only those with PHQ-9 scores indicating mild to high depression rates (PHQ-9 score 5 or higher).

The retrospective chart review identified 1213 adolescents who accessed the clinic and had a PHQ-9 administered between 1/17/2018 to 4/18/2018. Of these, $n = 600$ had PHQ-9 scores indicating depression without additional comorbidities (mental illness due to environmental disaster and genetic/chronic illness, including depression stemming from natural disasters such as flood, fire, refugee status, death in the family, injury) or chronic illness (cancer, diabetes, blood disorder, genetic illness). We identified 96 adolescents with PHQ-9 scores indicating mild to high depression (PHQ-9 ≥ 5). Each of these cases was de-identified using a unique identifier. We extracted data concerning socio-demographics including age, gender, ethnicity, PHQ-9 score, provider type (nurse practitioner versus physician) and any information concerning referral/initiation of medication or plan of care and follow-up.

Statistical analyses

We used the Statistical Package for the Social Sciences (SPSS version 24.0) for descriptive statistical data analyses. We compared PHQ-9 scores by age, ethnicity and gender, level of depression, current treatment, provider and referral. Details concerning referrals included accepted, refused, unnecessary, previously referred, referred at visit and referral by provider type. Follow-up information included follow-up completion and provider treatment including medication or counseling.

Results

This retrospective chart review included 1213 adolescents of whom $n = 600$ were depressed without additional comorbidities. We identified 96 cases including adolescents with PHQ-9 scores greater than five. Mean PHQ-9 score was 8.3 (SD 3.6) and the largest percentile had a PHQ-9 score of 5–6 (41.7%). The overall breakdown of scores for level of depression was 72.9% (5–9) mild; 20.8% (10–14) moderate and 6.3% (>15) moderately severe depression.

The adolescent age range was 11–13 years (55.7%), 14–15 years old (20.6%) and 15–16 years old (23.7%). Ethnicity was non-Hispanic White (60.7%), Hispanic (31.5%), Asian (4.8%) Black (2.2%), and mixed (1.0%). Gender identification was female (50.5%) and male (49.5%). Females had a mean PHQ-9 score of 8.63 (SD 4.19), while males had a mean PHQ-9 score of 7.91 (SD 2.97) ($p = .334$). Approximately equivalent percentages of female ($n = 34, 70.8\%$) or male ($n = 36, 75\%$) adolescents reported mild depression while fewer female ($n = 9, 18.8\%$) than male ($n = 11, 22.9\%$) adolescents reported moderate depression and more female ($n = 5, 10.4\%$) than male ($n = 1, 2.1\%$) adolescents reported severe depression ($p = .232$).

Overall, 17.5% ($n = 17$) of adolescents were currently receiving therapy. Less than half of the adolescents ($n = 42, 43.8\%$) received or were advised to obtain a referral during the visit. These referrals were primarily to counselors ($n = 35, 85.7\%$) of whom 57.1% ($n = 20$) accepted the

referral and 40% ($n = 8$) completed the referral. Considering treatment by the level of depression, more of those with moderate ($n = 14, 70\%$ none versus $n = 6, 30.0\%$ treatment) or severe ($n = 4, 66.7\%$ none versus $n = 2, 33.3\%$ treatment) than mild ($n = 61, 87.1\%$ none versus $n = 9, 12.9\%$ treatment) depression were receiving treatment ($p = .050$).

Comparisons of referral by level of depression found 38.6% ($n = 27$) with mild, 55% ($n = 11$) with moderate and 66.7% ($n = 4$) with moderately severe depression were referred ($p = .082$). The clinicians included two physicians (45.8%) and two nurse practitioners (42.9%), who made approximately equal percentages of referrals. Of those with mild, moderate and severe depression, nurse practitioners managed primarily mild ($n = 27, 77.1\%$) versus moderate ($n = 6, 17.1\%$) or severe ($n = 2, 5.7\%$) depression. Physicians also managed primarily mild ($n = 41, 69.1\%$) versus moderate ($n = 14, 23.1\%$) or severe ($n = 4, 6.8\%$) depression ($p = .717$). Of those with depression who were receiving treatment, 87.5% ($n = 14$) were managed by physicians and while 12.5% ($n = 2$) were managed by nurse practitioners ($p = .025$).

Referrals were primarily made to mental health counselors by 64.3% ($n = 27$) physicians and 35.2% ($n = 15$) nurse practitioners. Referrals were made by either the primary care-based physicians (57.7%) or nurse practitioners (42.0%) for medicine and counseling. More adolescents were not referred and managed instead by the nurse practitioners (58.0%) versus physicians (42.3%) referred ($p = .503$). Comparisons of the level of depression by referral and provider found similar referrals for mild depression (physician, $n = 18, 50\%$ versus nurse practitioner, $n = 10, 43.4\%$). However, among adolescents with moderate depression, physicians referred 66.7% ($n = 8$) versus 33.3% ($n = 2$) by nurse practitioners. Physicians referred more adolescents (100%, $n = 4$) with moderately severe depression compared to nurse practitioners (50%, $n = 2$), $p = .503$.

Discussion

The AAP guidelines intended to assist primary care clinicians in the identification and initial management of adolescents with depression in an era of clinical need and shortage of mental health specialty providers. These guidelines were not intended to replace clinical judgment nor meant to be the sole source of guidance for depression management in adolescents. Additional research addressing the identification and initial management of youth with depression by primary care providers is paramount for discrete refinement of these guidelines (Zuckerbrot et al., 2018).

This retrospective chart review, conducted for a pediatric primary care-based clinic, found that depression screening with the PHQ-9 occurred primarily during well child visits. The PHQ-9 depression screenings were not conducted during sports physicals or episodic illness visits. Depression referrals for treatment included counseling and medication with counseling. Nurse practitioners provided more counseling in the primary care-based setting than physicians thereby resulting in fewer referrals for counseling by nurse practitioners. The nurse practitioners managed care of more adolescents with mild to moderate depression and physicians managed more of those with moderately severe depression. Documentation of referral outcomes was limited. The majority of documented referrals and clinic follow-up indicated parents did not believe it were necessary, was inconvenient or adolescents were already referred for counseling. Parents may have been hesitant to complete referrals for therapy or scheduled clinic follow-ups during the initial evaluation of mild to moderate depression during well child visits. However, follow-up is critical for prevention of the progression of mental illness.

The primary care-based setting is an ideal location to serve as a key access point for early identification of anxiety and depression with 90% of U.S. youth regularly accessing their pediatric primary care providers (Honigfeld et al., 2017). However, sub-optimal depression treatment and follow-up occurs when limited to depression screening during

routine check-ups in these settings (Bhatta et al., 2018; Zenlea, Milliren, Mednick, & Rhodes, 2014).

Just as pediatric providers give anticipatory guidance and handouts to parents of younger patients, adolescents with moderate to high depression, or contemplating suicide, need resources to initiate dialogue with family members for early recognition and continued vigilance. Information concerning websites, and online guidebooks focused on suicide, depression and awareness, apps (such as phone app for suicide prevention) and national help lines such as the national suicide prevention lifeline (for urgent threat), or local crisis centers, are vital. Additionally, informing family about local resources, suicide prevention tools or creation of a mental health emergency plan is a task-oriented recommendation. Use of EMR in pediatric primary care-based clinics to include reminder prompts and pop ups for depression screening or its re-assessment and follow-up with providers are indicated. Use of a registry for inclusion of adolescents with high PHQ-9 scores or comorbidity may provide closer monitoring. Scheduled phone or text reminders could be delivered to adolescents included in this registry.

Limitations

Several limitations exist for this retrospective chart review. There was limited documentation of the mental health referrals and follow up. PHQ-9 assessments were only available for the well adolescent encounters, as the PHQ-9 was not administered at sports physicals or other episodic visits.

Conclusions

Primary care-based interventions provided by pediatric nurses are imperative to address adolescent mental health needs, as access to mental health resources fall short of the mental health crisis. Our study findings reveal there was limited follow-up scheduled for depression identified via screening in a pediatric primary care-based clinic. Depression re-assessment and follow-up on referrals or counseling occurred primarily at well adolescent visits. Our study findings identify the need for incorporation of practical modalities for depression assessment and follow-up at other visits including episodic or sports physical visits to enhance primary care-based mental health access.

Previous studies found pediatric-based brief behavioral interventions for depression resulted in outcomes superior to those associated with referral to outpatient mental health care (Weersing et al., 2017). As primary care-based providers, pediatric nurses and nurse practitioners are in a position to assess and provide brief behavioral interventions for depression without need for referral particularly among adolescents experiencing mild depression. Adolescent mental health necessitates an enhanced continuum of care. It is imperative to conduct future study for comparison of methods (phone/text reminder, follow up appointment, online resource reminder, telehealth) to enhance pediatric primary care-based follow-up for adolescents experiencing varying levels of depression.

Credit authorship contribution statement

Tasmina Chowdhury: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing - original draft, Writing - review & editing. **Jane Dimmitt Champion:** Conceptualization, Data curation, Formal analysis, Methodology, Software, Supervision, Validation, Visualization, Writing - review & editing.

References

Aulasma, M. C., Zerr, A. M., Eter, D. J., Ouyang, F., Gilbert, A. L., Williams, R. L., ... Downs, S. M. (2018). Physician intervention to positive depression screens among adolescents in primary care. *Journal of Adolescent Health, 62*(2), 212–218. <https://doi.org/10.1016/j.jadohealth.2017.08.023>.

Bhatta, S., Champion, J. D., Young, C., & Loika, E. (2018). Outcomes of depression screening among adolescents accessing school-based pediatric primary care clinic services. *Journal of Pediatric Nursing, 33*, 8–14. <https://doi.org/10.1016/j.pedn.2017.10.001>.

Centers for Disease Control and Prevention (2017). Leading cause of death among adolescents aged 15 to 19 years. Retrieved from <https://www.cdc.gov/nchs/fastats/adolescent-health.htm>.

Champion, J. D., Pierre, S., & Collins, J. L. (2015). Retrospective chart review of obesity and episodic and chronic illness among rural Mexican-American adolescents accessing rural health clinic services. *International Journal of Nursing Practice, 21*(3), 328–336. <https://doi.org/10.1111/inj.12261>.

Champion, J. D., Young, C., & Rev, L. (2016). Substantiating the need for primary care-based sexual health promotion interventions for ethnic minority adolescent women experiencing health disparities. *Journal of the American Association of Nurse Practitioners, 28*(9), 487–492. <https://doi.org/10.1002/2327-6924.12346>. PMID: 26887630.

Collins, J. L., & Champion, J. D. (2009). Male adolescent sexual behavior: What they know and what they wish they had known. *Western Journal of Nursing Research, 31*(6), 748–771. <https://doi.org/10.1177/0193945909335379>.

Grady, B., Myers, K. M., Nelson, E. L., Belz, N., Bennett, L., & Carnahan, L. (2011). American Telemedicine Association telemental health standards and guidelines working group. Evidence-based practice for telemental health. *Telemedicine Journal and E-Health, 17*(2), 131–148.

Honigfeld, L., Macary, S. J., & Grasso, D. J. (2017). A clinical care algorithmic toolkit for promoting screening and next-level assessment of pediatric depression and anxiety in primary care. *Journal of Pediatric Health Care, 31*(3), e15–e23. <https://doi.org/10.1016/j.pedhc.2017.01.008>.

Jones, P. B. (2013). Adult mental health disorders and their age at onset. *The British Journal of Psychiatry, 202*(54), s5–s10. <https://doi.org/10.1192/bjp.bp.112.119164>.

Jon-Ubabuco, N., & Champion, J. D. (2019). Perceived mental healthcare barriers and health seeking behavior of African American caregivers of adolescents with mental health disorders. *Issues in Mental Health Nursing, 40*(7), 405–412. <https://doi.org/10.1080/01612840.2018.1543741>.

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals, 32*(9), 509–515. <https://doi.org/10.3928/0048-5713-20020901-06>.

Kunzel, S., Rosenqvist, U., & Westerling, R. (2007). The structure of quality systems is important to the process and outcome, an empirical study of 386 hospital departments in Sweden. *BMC Health Services Research, 7*(1). <https://doi.org/10.1186/1472-6963-7-104>.

Mental Health America - Youth Data (2017). <https://www.mhational.org/issues/2017-state-mental-health-america-access-care-data>.

Myers, K. M., Valentine, J. M., & Melzer, S. M. (2007). Feasibility, acceptability, and sustainability of telepsychiatry for children and adolescents. *Psychiatric Services, 58*(11), 1493–1496. <https://ps.psychiatryonline.org/doi/full/10.1176/ps.2007.58.11.1493>.

Nelson, E., & Sharp, S. (2016). A review of pediatric telemental health. *Pediatric Clinics of North America, 63*(5), 913–931. <https://doi.org/10.1016/j.pcl.2016.06.011>.

Recto, P., & Champion, J. D. (2017). Psychosocial risk factors for perinatal depression among female adolescents: A systematic review. *Issues in Mental Health Nursing, 38*(8), 633–642. <https://doi.org/10.1080/01612840.2017.1330908>.

Recto, P., & Champion, J. D. (2018). Mexican-American adolescents' perceptions about causes of perinatal depression, self-help strategies and how to obtain mental health information. *Journal of Child and Adolescent Psychiatric Nursing (2–3)*, 61–69. <https://doi.org/10.1111/jcap.12210>.

Richardson, L. P., McCauley, E., Grossman, D. C., McCarty, C. A., Richards, J., Russo, J. E., ... Katon, W. (2010). Evaluation of the Patient Health Questionnaire (PHQ-9) for detecting major depression among adolescents. *Pediatrics, 126*(6), 1117. <https://doi.org/10.1542/peds.2010-0852>.

Siwicki, B. (Nov. 1, 2018). Healthcare IT news. Portable telemedicine tech keeps kids in school, and quadruples location. Retrieved on 3/28/19 from <https://www.healthcareitnews.com/news/portable-telemedicine-tech-keeps-kids-school-and-quadruples-visits>.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Patient Health Questionnaire Primary Care Study Group (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *Journal of the American Medical Association, 282*(18), 1737–1744. <https://doi.org/10.1001/jama.282.18.1737>.

Talalero, L. A., Hestler, J., Edwall, C., Wright, C., Edwards, A. R., & Borowsky, I. W. (2013). Depression screening and management among adolescents in primary care: Factors associated with best practice. *Clinical Pediatrics, 52*(6), 557–567. <https://doi.org/10.1177/0009922813483874>.

Tsai, F. J., Huang, Y. H., Liu, H. C., Huang, K. Y., Huang, Y. H., & Liu, S. I. (2014). Patient health questionnaire for school-based depression screening among Chinese adolescents. *U.S. DHHS & HRSA (2011)*. Quality improvement. <https://www.hrsa.gov/quality/toolbox/508pds/qualityimprovement.pdf>.

United States Preventive Services Task Force (2018). Depression in children and adolescents: Estimate of magnitude of net benefit. <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/depression-in-children-and-adolescents-screening/1>.

Weersing, V. R., Brent, D. A., Rozenman, M. S., Gonzalez, A., Jeffreys, M., Dickerson, J. F., ... Iyengar, S. (2017). Brief behavioral therapy for pediatric anxiety and depression in primary care - A randomized clinical trial. *JAMA Psychiatry, 74*(6), 571–578. <https://doi.org/10.1001/jamapsychiatry.2017.0429>.

Wright, D. R., Haaland, W. L., Ludman, E., McCauley, E., Lindenbaum, J., & Richardson, L. P. (2016). The costs and cost-effectiveness of collaborative care for adolescents with depression in primary care settings: A randomized clinical trial. *JAMA Pediatrics, 170*(11), 1048–1054. <https://doi.org/10.1001/jamapediatrics.2016.1721>.

Zenlea, I. S., Milliren, C. E., Mednick, L., & Rhodes, E. T. (2014). Depression screening in adolescents in the United States: A national study of ambulatory office-based practice. *Academic Pediatrics, 14*(2), 186–191. <https://doi.org/10.1016/j.acap.2013.11.006>.

Zuckerbrat, R. A., Cheung, A., Jensen, R. S., Stein, R. E. K., Laraqe, D., & GLAD-PC Steering Group (2018). Guidelines for adolescent depression in primary care (GLAD-PC): Part I. Practice preparation, identification, assessment and initial management. *Pediatrics, 141*(3), 1–31. <https://doi.org/10.1542/peds.2017-4082>.