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Differences in Mental Health Symptoms Across Lesbian, Gay, Bisexual, and Questioning Youth in Primary Care Settings

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A B S T R A C T

Purpose: Lesbian, gay, bisexual, and questioning (LGBQ) youth exhibit significantly higher rates of mental health problems, including anxiety, depression, suicidal ideation, and nonsuicidal self-injury than their heterosexual peers. Past studies tend to group LGBQ youth together; however, more recent studies suggest subtle differences in risk between sexual minority groups. This study examined differences in mental health symptoms across male and female youth who are attracted to the same sex (gay and lesbian), opposite sex (heterosexual), both sexes (bisexual), or are unsure of whom they were attracted to (questioning) in a sample of 2,513 youth (ages 14–24 years).
Methods: Data were collected using the Behavioral Health Screen—a Web-based screening tool that assesses psychiatric symptoms and risk behaviors—during routine well visits.
Results: Bisexual and questioning females endorsed significantly higher scores on the depression, anxiety, and traumatic distress subscales than did heterosexual females. Lesbians, bisexual females, and questioning females all exhibited significantly higher lifetime suicide scores than heterosexual females. Interestingly, bisexual females exhibited the highest current suicide scores. Gay and bisexual males endorsed significantly higher scores on the depression and traumatic distress subscales than did heterosexual males. Gay males also exhibited higher scores on the anxiety subscale than heterosexual males, with bisexual males exhibiting a nonsignificant trend toward higher scores as well.
Conclusions: Findings highlight varying level of risk across subgroups of LGBQ youth and suggest the importance of considering LGBQ groups separately in the context of a behavioral health assessment, especially for females.

IMPLICATIONS AND CONTRIBUTION

These findings suggest there may be differences in severity of mental health symptoms across lesbian, gay, bisexual, and questioning (LGBQ) youth, in addition to differences between LGBQ and heterosexual youth. These findings also underscore the importance of asking about sexual orientation and behavioral health symptoms in primary care settings.

Youth who identify as lesbian, gay, or bisexual (LGB) exhibit significantly higher rates of mental health problems, including anxiety, depression, suicidal ideation, and self-harm than their heterosexual peers [1–4]. For instance, LGB youth are three times more likely to endorse suicidal ideation [4] and up to four times more likely to make a suicide attempt compared to heterosexual youth [5]. In addition, LGB youth use more lethal methods than their heterosexual peers when making attempts [5]. The American Academy of Pediatrics has recently released a policy

The authors have full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.
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statement encouraging medical providers to create an environment in which youth in general and LGB youth in particular feel comfortable talking about issues of sexuality and gender identity [6]. Surprisingly, only 35% of LGB youth report that their primary care (PC) physician is aware of their sexual orientation; yet 64% say that having a physician "just ask" would make disclosure more comfortable [7].

Most studies examining the mental health of LGB youth have failed to differentiate between lesbian, gay, and bisexual persons. In particular, bisexual individuals are often excluded altogether. This is surprising given that data from public surveys suggest more people identify as bisexual than as gay or lesbian [8]. In addition, a few studies with adult samples found that, when compared to straight or lesbian women, bisexual women actually exhibit higher rates of anxiety, depression, and suicidality [9,10]. Another study found that adolescent females with both-sex partners are at increased risk of suicidal thoughts compared to adolescents with opposite-sex partners only, while those with same-sex partners only are at comparable risk to those with opposite-sex partners only [11]. These few studies highlight the need for medical providers to consider bisexuality as a unique identity.

A second group often excluded in the literature is youth who are questioning their sexuality. Similar to LGB adolescents, "questioning" or "unsure" youth are at increased risk of suicidality and other psychosocial problems during adolescence [12,13]. For instance, when compared with their heterosexual peers, questioning youth are three times more likely to make a suicide attempt [5]. Espelage et al. [14] also found that questioning youth are more likely to experience depression or suicidality than both their heterosexual and LGB peers. In addition, questioning youth report higher alcohol and marijuana use than other LGB youth and a greater incidence of nonsuicidal self-injury (along with bisexual youth) than heterosexual youth [14,15]. Finally, Birkett et al. [16] found that questioning youth report experiencing more bullying and homophobic victimization than their LGB peers. In our own work, we found that bisexual and questioning females exhibit significantly higher rates of eating disorder symptoms than lesbian or heterosexual females [17]. Again, these findings encourage the consideration of questioning youth as a unique subgroup.

It is important to note here that most LGBQ youth are healthy, functioning, and resilient [18]. Both individual and contextual risk factors for mental health problems in LGBQ youth have been identified. Many of these risk factors are the same as those for heterosexual youth (e.g., depression). Some risk factors are unique to LGBQ youth (e.g., coming out at a young age, sexual orientation-based discrimination) [19]. Similarly, there are multiple factors that contribute to the resiliency of most LGBQ youth. For example, LGB youth living in environments that are more supportive of gays and lesbians are less likely to attempt suicide [20]. Finally, past studies examining suicide risk in sexual minority youth have been criticized for methodological problems, such as measurement of suicide attempts and recruitment methods, thus limiting the interpretation of these findings [21].

Still, LGBQ persons may experience unique prejudices not experienced by heterosexual persons. Meyer's minority stress hypothesis is particularly useful in explaining the role of stigma and stress on elevated rates of mental illness in LGBQ populations. It posits that LGBQ persons experience three types of stressors: (1) external, objective stressors (e.g., antigay discrimination and prejudice); (2) the expectation of prejudice, which causes vigilant monitoring; and (3) internalization of stigma and prejudice, such as internalized homophobia [22]. Indeed, LGB youth who grew up in high-stigma environments exhibit a blunted cortisol in response to a stressor compared with LGB youth who grew up in more accepting environments. This blunted response is also seen in youth who have experienced trauma or other adverse life events [23]. This study is one of the first to provide physiological evidence in support of Meyer's minority stress hypothesis and highlights the very powerful role of social context and stigma in contributing to risk.

The minority stress hypothesis may also explain why bisexual persons may be at greater risk for mental health problems, even when compared to gay and lesbian persons [9–11]. For instance, in addition to stress associated with sexual minority identities in general [22], bisexual people face additional and unique prejudice and stigma not experienced by either lesbian/gay or heterosexual individuals (e.g., beliefs that bisexuals are promiscuous or that bisexuality is not a "real" identity) [24]. Indeed, bisexual participants report discrimination from gay and lesbian communities in addition to heterosexual communities [24], resulting in "double discrimination [25]." Other research has found that heterosexual persons report more negative attitudes toward bisexual individuals than lesbians or gay men [26].

Questioning youth may also face unique stressors not experienced by gay or lesbian persons. The bottleneck hypothesis, which has been applied to career development among LGBQ persons, could help explain this phenomenon. Specifically, it posits that individuals possess a limited amount of psychological energy; therefore, individuals who are questioning or still exploring their sexuality may devote a disproportionate amount of this energy towards sexual identity development at the expense of other areas (e.g., career development) [27]. In other words, questioning youth may have less psychological energy available to tackle the other developmental challenges of adolescence.

Given that bisexual and questioning individuals may face unique stressors not experienced by lesbian or gay persons, we were surprised at the dearth of studies examining differences among LGBQ persons. Moreover, no studies have looked at these differences across a wide array of behavioral health concerns, and none have examined these differences in youth presenting to PC settings.[1] A huge limitation of the past studies is recruitment of samples through LGB transgender (LGBT) channels, which may bias the rates of mental health symptoms observed [1,2]. Thus, we examined whether there are consistent differences in behavioral health problems across heterosexual and LGBQ youth in a large PC sample. We hypothesized that bisexual and questioning youth would be at greater risk for mental health problems than either heterosexual or lesbian/gay persons given the unique challenges these groups face. In examining these differences, we also assessed whether participants reported similar rates of the same-sex attraction compared to nationally representative samples.

Methods

Participants

Participants were 2,513 youth (61.2% female and 38.7% male), ages 14 to 24 years (*M*, 17.24; standard deviation [SD], 2.86). About 75.4% of the sample identified as white ($n = 1,894$), 4.7% as

[1] Primary care settings refer to non–hospital-based treatment centers where patients receive routine medical care.

Table 1
Example items from Behavioral Health Screen scales

Scale	Number of items	Example item from scale
Substance Use	4	During the past year, have you kept using alcohol or drugs even though it caused problems in your relationships?
Anxiety	4	During the past 2 weeks, how often have you worried so much that it was hard for you stop worrying?
Suicide Lifetime	3	In your lifetime, did you ever plan to kill yourself?
Suicide Current (only asked if Suicide Lifetime endorsed)	3	In the past week, did you ever make a plan to kill yourself?
Traumatic Distress	4	In your lifetime, have you ever had any experience that was so frightening, horrible, or upsetting that in the past 2 weeks you have had nightmares or have thoughts about it when you did not want to?
Depression	5	During the past 2 weeks, how often have you felt down, unhappy, sad, or depressed most of the day for several days at a time?

black/African-American (n = 119), .7% as American-Indian/Alaskan Native (n = 17), 1.8% as Asian (n = 46), .8% as Native Hawaiian/Other Pacific Islander (n = 19), and 8.1% as Multiracial (n = 203). A little >7% (7.6%, n = 192) indicated they were unsure of their race. Over 16% (16.6%, n = 418) of the sample also identified as Hispanic. In terms of sexual attraction, 91.7% of the sample reported that they were attracted to members of the opposite sex (n = 2,304), 2.1% reported attraction to members of the same sex (n = 52), 3.9% reported attraction to members of both sexes (n = 99), and 1.6% reported that they were unsure of who they were attracted to (n = 41). Slightly more males (93.9%, n = 914) reported exclusive attraction to the opposite sex than females (90.4%, n = 1,390).

Procedure

Ten PC offices in rural and semiurban Northeastern Pennsylvania were asked to participate in a suicide prevention project using the Behavioral Health Screen (BHS), a comprehensive, Web-based screening tool [28]. Practices ranged from sole practitioner offices to federally funded health centers. As part of the project, providers used the BHS to screen patients for whom they had mental health concerns (i.e., indicated screening). Patients completed the screener on a computer or touchpad before their appointment. The BHS takes approximately 7–10 minutes to complete on average. As an effectiveness study, office staff was responsible for administration of the tool; thus, we do not have data on the number of patients who were asked but refused to complete the screen. However, in qualitative exit interviews, providers reported that very few patients refused when asked. With provider and patient consent, data were deidentified and used for research purposes. This study was approved by the Institutional Review Board at the Children's Hospital of Philadelphia. We should note that the BHS was not specifically designed to test for mental health symptoms in LGBQ youth; thus, this study is an ad hoc analysis.

Measures

The BHS was developed by Diamond et al. [28] (2010) to increase detection of behavioral health problems in medical settings. Questions were derived from the *Diagnostic and Statistical Manual of Mental Disorders, fourth Edition, Text Revision* (DSM-IV-TR) criteria and other public domain psychosocial assessment tools. The BHS is comprised of 13 modules, which assess the following domains: demographics, medical, school, family, safety, substance use, sexuality, depression, anxiety, nutrition/eating, suicide, psychosis, and traumatic distress. Twenty national experts and local focus groups consisting of medical practitioners helped select the items. There are 55 core questions with an additional 38 follow-up items asked if certain core items are endorsed. Responses are coded on a three-point scale (no symptoms, moderate symptoms, or severe symptoms). The BHS is currently used in 40 medical sites and 20 schools across Pennsylvania and is being rolled out in eight other states.

Psychometric validation has confirmed the validity and reliability of the scales [28,29]. In a separate sample of 415 youth, the scale exhibited both good discriminant validity and good internal consistency (Cronbach α ranging from .75 to .87). The subscales also showed good sensitivity and specificity, with overall accuracy ranging from 78% to 85%. In our sample, Cronbach α ranged from moderate to high (.70 for substance use, .84 for anxiety, .83 for depression, .72 for lifetime suicidality, .70 for current suicidality, and .80 for traumatic distress). More information about the measure can be found at http://www.mdlogix.com.

In the present study, we examined items from the demographics, sexuality, substance use, anxiety, depression, suicide, and traumatic distress scales (for example items, see Table 1). We computed sexuality on the basis of the participant's gender (male, female, or transgender) and a question asking which sex the participant is attracted to (males, females, both, or unsure). Participants were not provided with any explanatory information regarding the differences between sex and gender identity but were allowed to answer using their current understanding of the terms. In addition, we realize that sexuality is complex and that attraction is not synonymous with identity. For simplicity's sake, we use the term "lesbian" for females attracted to females, "gay" for males attracted to males, "bisexual" for participants attracted to both sexes, and "questioning" for unsure participants; however, we realize participants may not have identified this way.

Data analysis plan

Analyses were conducted using SPSS version 23. Multivariate analyses of variance tested whether the four sexual orientation groups differed on mean levels of depressive symptoms, anxiety symptoms, suicidality (current and lifetime), traumatic distress, and substance abuse. Analyses were conducted with and without controls for age and ethnicity. Post hoc Tukey tests were then used to identify significant differences between groups.

Results

First, multivariate analyses of variance showed mean differences across the sexual orientation groups on level of depressive

symptoms, anxiety symptoms, lifetime suicidality, current suicidality, and substance abuse for both females, $F(18,4551) = 6.39$, $p < .001$, partial $\eta^2 = .025$; and males, $F(18,2862) = 3.36$, $p < .001$, partial $\eta^2 = .021$. As the Levene test indicated unequal variances for some of the scales, we report the F statistic associated with the Pillai trace as it is most robust to violations of homogeneity of variance [30]. Post hoc Tukey tests (Table 2) revealed that bisexual and questioning females exhibited significantly higher scores on the depression, anxiety, and traumatic distress subscales than did heterosexual females. There were no differences between lesbians, bisexual, or questioning females on any of these three subscales. All three sexual minority groups also reported significantly higher *lifetime* suicide scores than heterosexual females, and bisexual females reported the highest *current* suicide scores. In fact, they reported significantly higher current suicide scores than either lesbian or heterosexual females. Similar trends were found for the substance abuse subscale. Bisexual females reported significantly higher substance abuse scores than heterosexual females, with a trend toward higher scores than lesbian females as well. There were no differences between bisexual and questioning females on either of these subscales, nor were there any differences among questioning, heterosexual, or lesbian females.

Among males (Table 3), gay and bisexual males appeared to be most at risk compared with other groups. Specifically, both groups exhibited significantly higher scores on the depression and traumatic distress subscales than heterosexual males. In addition, gay males endorsed significantly higher scores on the anxiety subscale than heterosexual males. Bisexual males also reported higher scores than heterosexual males, but this only trended toward significance. Finally, bisexual males exhibited significantly higher lifetime suicide scores than heterosexual males, with a trend toward higher scores than gay males as well. There were no differences between any of the groups on the current suicide or substance use subscales. Unlike females, questioning males did not appear to be at elevated risk. In fact, there were no significant differences between questioning and heterosexual males on any of the subscales. Significant group differences remained when controlling for age and ethnicity.

Discussion

Although most LGBQ youth lead happy, healthy lives, a substantial body of literature indicates that LGBQ youth are at increased risk for behavioral health problems [1-5; 9-17]. Few researchers, however, have examined differences in mental health symptoms *across* LGBQ youth, and none to our knowledge have examined these differences using a broad measure of behavioral health symptoms implemented in PC settings. This study screened >2,500 youth, which allowed us adequate power to assess differences between subgroups. In addition, unlike many studies examining sexual orientation, we did not actively recruit LGBQ individuals [1,2]. Instead, our sample came from PC offices across Northeastern Pennsylvania. This not only removes a source of self-selected sampling bias but also helps sensitize medical providers to behavioral problems present in this patient population.

As hypothesized, there were notable differences across groups. Bisexual and questioning females appeared to be more at risk for mental health problems compared to heterosexual females. In addition, all three female sexual minority groups reported significantly higher lifetime suicide scores than heterosexual females. Interestingly, bisexual females appeared to be the most at risk for current suicidality compared to the other three groups. Among males, gay and bisexual males appeared to be the most at risk for behavioral health problems. Specifically, they endorsed higher scores on the depression, anxiety, and traumatic distress subscales than heterosexual males. Bisexual males also endorsed significantly higher lifetime suicidality scores than heterosexual males, with a nonsignificant trend toward higher scores than gay males as well. There were no differences between heterosexual males and questioning males or between questioning and gay/bisexual males on any of the subscales.

As evidenced by the literature, perceived discrimination has been associated with mental health concerns among lesbian, gay, and bisexual individuals [31]. In addition, bisexual individuals may face unique stressors—such as stereotypes that bisexuals are promiscuous or that bisexuality is "just a phase." As the San Francisco Human Rights Commission report on "Bisexual Invisibility" put it, "two women holding hands are read as 'lesbian,' two men as 'gay,' and a man and a woman as 'straight.' In reality, any of these people might be bi[sexual] - perhaps all of them" [p. 3; 32]. Furthermore, although the LGBT community has been shown to buffer against mental health problems in sexual minority populations [33], bisexual individuals may be less involved in this community because of perceived discrimination from gay and lesbian persons [24,25]. Invisibility and a lack of community support may contribute to the higher incidence of mental health problems among bisexual persons. Indeed, one study found that perceived burdensomeness mediated the relationship between minority stress and suicidal ideation in LGB youth [34]. For gay and lesbian youth, identification with a positive community may help buffer against feelings of perceived burdensomeness, benefits bisexual persons may not experience.

Table 2
Means (standard deviation) and confidence intervals for all Behavioral Health Screen scales across all groups (females)

Scale	η^2	F (3, 1520)	Attracted to males		Attracted to females		Attracted to both sexes		Unsure	
			M (SD)	CI	M (SD)	CI	M (SD)	CI	M (SD)	CI
Substance abuse	.009	4.35*	$.10^{a}$ (.46)	.07–.12	$.03^{a,b}$ (.18)	−.14 to .20	$.28^{b}$ (.76)	.18–.39	$.07^{a,b}$ (.26)	−.10 to .25
Depression	.049	26.24**	$.87^{a}$ (1.09)	.81–.93	$1.28^{a,b}$ (1.22)	.89–1.67	1.86^{b} (1.20)	1.62–2.10	1.71^{b} (1.26)	1.30–2.12
Anxiety	.042	21.96**	1.24^{a} (1.13)	1.18–1.30	$1.71^{a,b}$ (1.22)	1.31–2.11	2.20^{b} (1.21)	1.95–2.45	1.88^{b} (1.25)	1.46–2.30
Suicide (lifetime)	.043	23.03**	$.33^{a}$ (.88)	.28–.38	$.77^{b}$ (1.28)	.44–1.10	1.10^{b} (1.41)	.90–1.31	1.00^{b} (1.43)	.65–1.35
Suicide (current)	.013	6.63**	$.08^{a}$ (.48)	.06–.11	$.04^{a}$ (.24)	−.14 to .23	$.33^{b}$ (.98)	.22–.44	$.26^{a,b}$ (.86)	.07–.46
Traumatic distress	.033	17.47**	$.50^{a}$ (1.04)	.44–.56	$.87^{a,b}$ (1.23)	.49–1.25	1.31^{b} (1.49)	1.07–1.55	1.11^{b} (1.37)	.70–1.51

Means with differing superscripts are significantly different at the $p < .05$ from other means in that row based on Tukey honest significant difference post hoc paired comparisons. Significant differences remained when controlling for age and ethnicity.
CI = confidence interval; SD = standard deviation.
*$p < .01$; **$p < .001$.

Table 3
Means and standard deviations for all Behavioral Health Screen scales across all groups (males)

Scale	η^2	F (3, 957)	Attracted to males		Attracted to females		Attracted to both sexes		Unsure	
			M (SD)	CI	M (SD)	CI	M (SD)	CI	M (SD)	CI
Substance abuse	.002	.59	.10[a] (.30)	−.14 to .33	.16[a] (.56)	.12–.19	.06[a] (.24)	−.20 to .31	.00[a] (.00)	−.30 to .30
Depression	.019	6.23**	1.31[a] (1.09)	.91–1.72	.62[b] (.94)	.55–.67	1.22[a] (1.28)	.79–1.66	.74[a,b] (.71)	.23–1.25
Anxiety	.018	5.74**	1.63[a] (1.23)	1.19–2.06	.90[b] (1.01)	.84–.97	1.50[a,b] (1.22)	1.03–1.97	1.23[a,b] (.83)	.68–1.79
Suicide (lifetime)	.028	9.29**	.44[a] (.88)	.14–.75	.22[a] (.69)	.17–.27	1.04[b] (1.62)	.70–1.37	.62[a] (.88)	.22–1.01
Suicide (current)	.001	.26	.00[a] (.00)	−.20 to .20	.07[a] (.47)	.04–.10	.07[a] (.31)	−.14 to .29	.00[a] (.00)	−.25 to .25
Traumatic distress	.020	6.64**	1.05[a] (1.40)	.65–1.45	.38[b] (.91)	.32–.44	1.06[a] (1.51)	.63–1.49	.54[a,b] (.82)	.03–1.05

Means with differing superscripts are significantly different at the $p < .05$ from other means in that row based on Tukey honest significant difference post hoc paired comparisons. Significant differences remained when controlling for age and ethnicity.
CI = confidence interval; SD = standard deviation.
** $p < .001$.

Consistent with past findings [14-16], we also found that questioning females were at increased risk for several types of behavioral health problems. Specifically, they exhibited significantly higher scores on the depression, anxiety, lifetime suicide, and traumatic distress scales than heterosexual females. Similar to our results for bisexual individuals, these findings underscore the importance of considering questioning or "unsure" youth as a distinct group. In addition to societal stigmatization, questioning youth may also face the added pressure of exploring their sexual attractions in the context of a society that reinforces a dichotomous view of gender and sexuality, another stressor piled atop the already daunting developmental demands of adolescence [27]. It is unclear, however, why questioning males did not appear to be comparatively more at risk. It is possible that the intersectionality of sexual and gender identity creates unique risks for women who are questioning [35]. In addition, there were a smaller percentage of questioning males in our sample compared with females, which may also account for the null findings. This is consistent with research suggesting that sexuality is more fluid for females [36]. Thus, males may experience less uncertainty regarding sexual attraction.

Limitations

This study has some limitations. First, data were collected by PC staff as indicated screening and therefore may not be representative of the general population of youth or even all pediatric PC samples. Second, some patients may not have felt comfortable endorsing same-sex attraction, and others may report differently later as they continue to explore their sexuality. Indeed, it is not uncommon for youth to move back and forth from same-sex attraction to opposite-sex attraction throughout adolescence and into adulthood [37]. Still, the prevalence rates of the same- and both-sex attracted youth in our sample are similar to those found in national samples [8,38]. In addition, differential symptom presentations were largely robust across groups, suggesting they indeed did represent distinct groups.

Third, sexuality is complex and thus difficult to capture using a brief screen. In reality, sexual identity involves attraction and interpersonal contact on emotional, physical, and cognitive levels. We labeled individuals as heterosexual, lesbian/gay, bisexual, and questioning based on gender and self-reported attraction. We have no validation that the youth in our study actually identified this way. In addition, participants may identify in one way but act or experience attractions in ways that are inconsistent with this identity. Asking multiple questions across multiple time points would have given us a more accurate picture of sexuality.

In conclusion, our findings underscore the willingness of sexual minority youth to disclose the same-sex attractions in PC settings. This is consistent with previous research indicating that most LGB youth will self-identify if physicians simply ask [7]. Medical providers should in turn be receptive to this information and engage youth in conversations about these issues, particularly in contexts where the same-sex or bisexual attractions are stigmatized [23]. Related, although sexual orientation does not cause mental illness, physicians should be aware of the link between LGBQ status and behavioral health problems, particularly because they can have very serious repercussions (e.g., suicide).

Furthermore, these findings highlight the need for medical providers and researchers alike to be sensitive to the unique differences across LGBQ youth. Although sexual minorities are at increased risk for behavioral health issues in general, we found certain subgroups were more at risk than others. Therefore, it is particularly important for physicians to ask nuanced questions about sexuality and for researchers to be cognizant of these differences when assessing sexuality in research contexts.

Finally, these findings demonstrate the utility of tools such as the BHS and the importance of administering behavioral health screening to youth presenting in PC settings. Because most youth see a health provider at least once a year [39], physicians have unique opportunities to identify behavioral health problems and help youth gain appropriate access to care. Unfortunately, many medical providers may feel uncomfortable asking about sexuality. The BHS helps reduce this concern by asking youth a systematic set of questions prior to their face-to-face appointment. In addition, trainings such as LGBT Safe Space Ally Programs [40], implemented on college campuses, could be adapted for health care professionals to help them feel comfortable discussing issues of sexuality and gender with patients. In practice, many providers do not ask questions about mental health or adolescent sexuality [7]. This research underscores the importance of asking both.

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