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Editorial Board Member of *World Journal of Clinical Cases*, Alessandro Leite Cavalcanti, DDS, MSc, PhD, Associate Professor, Department of Dentistry, State University of Paraiba, Campina Grande 58429500, Paraiba, Brazil. alessandrouepb@gmail.com

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The primary aim of *World Journal of Clinical Cases* (WJCC, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

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Spirituality, religiousness, and mental health: A review of the current scientific evidence

Giancarlo Lucchetti, Harold G Koenig, Alessandra Lamas Granero Lucchetti

ORCID number: Giancarlo Lucchetti 0000-0002-5384-9476; Harold G Koenig 0000-0003-2573-6121; Alessandra Lamas Granero Lucchetti 0000-0002-1096-1038.

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Giancarlo Lucchetti, Alessandra Lamas Granero Lucchetti, School of Medicine, Federal University of Juiz de Fora, Juiz de Fora 36030-776, Brazil

Harold G Koenig, Medical Center, Duke University, Durham, NC 27710, United States

Corresponding author: Giancarlo Lucchetti, MD, PhD, Associate Professor, School of Medicine, Federal University of Juiz de Fora, Av. Eugênio do Nascimento s/n, Juiz de Fora 36030-776, Brazil. g.lucchetti@yahoo.com.br

Abstract

Research in the field of "Spirituality and Health" has been growing, with spirituality/religiousness (S/R) being consistently related to both physical and mental health. The objective of this article is to provide an updated review of the current scientific evidence on the relationship between S/R and mental health, highlighting the most important studies. As a secondary objective, the mechanisms that explain this relationship and the interventions that utilize this information in treating mental disorders will be discussed. The findings reveal a large body of evidence across numerous psychiatric disorders. Although solid evidence is now available for depression, suicidality, and substance use, other diagnosis, such as post-traumatic stress disorder, psychosis, and anxiety, have also shown promising results. The effects of S/R on mental health are likely bidirectional, and the manner in which religious beliefs are used to cope with distress (*i.e.* negative and positive), may affect mental health outcomes. Despite these findings, the mechanisms that explain these associations and the role of S/R interventions need further study. Concerning clinical practice, mental health providers should ask patients about S/R that are important in their lives to provide holistic and patient-centered care.

Key Words: Spirituality; Religion; Depression; Mental health; Psychiatry

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Core Tip: The number of studies assessing spirituality/religiousness (S/R) and mental health has been increasing over the past several decades, resulting now in a large body of evidence suggesting an impact of S/R. However, there remain many gaps in the

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literature that need filling in this area. There are numerous practical clinical applications that psychiatrists and other mental health professionals should consider implementing in clinical care. This will lead to a more holistic and patient-centered form of mental health care.

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INTRODUCTION

The field of spirituality/religiousness (S/R) has been growing rapidly as scientific evidence has accumulated on the relationship with mental health[1]. The research has been hampered by the lack of consensus on the definition of the term spirituality, which authors have begun to differentiate from religiousness[2].

On the one hand, religion involves beliefs, practices, and rituals related to the transcendent; on the other hand, spirituality is a broader concept, which includes the personal quest for understanding answers to ultimate questions about life, life meaning, and relationship with the sacred or transcendent[1]. Using these definitions, an individual could have high levels of spirituality even with low levels of religiousness.

In the past decades, several organizations (*e.g.*, the American College of Physicians, the American Medical Association, the American Nurses Association) have recognized the role of spirituality in clinical practice[3]. Likewise, this topic has been consistently incorporated into the curricula of several medical schools throughout the world, ranging from 40% of schools in Brazil to 59% of those in the United Kingdom and 90% in the United States[4,5]. The incorporation of spirituality into medical education has been prompted by the great number of publications and the growing evidence of a relationship with health that has resulted in thousands of articles published in indexed scientific journals[1].

Recent evidence has shown that S/R have been associated with several different health outcomes both physical and emotional[3,6,7]. In relation to physical health, the majority of studies have found that S/R is related to lower levels of hospitalization and pain, greater survival, and better functional status and cardiovascular outcomes[6,8,9]. However, it is important to note that at least 80% of the research in this area has focused on mental health outcomes[1].

The objective of this review is to provide an updated review of the current evidence on the relationship between S/R and mental health, highlighting the most important studies. As a secondary objective, the mechanisms for this relationship, possible interventions utilizing these findings, and the broader clinical implications will be discussed.

HISTORY OF S/R IN PSYCHIATRY

The relationship between S/R and mental and physical health dates back to ancient times. However, in the 19th and 20th centuries, particularly in the field of psychiatry, this religious involvement was viewed as negative, and responsible for worse outcomes, such as hysteria and neurosis[3,10]. This created a separation between religion and medicine, and has resulted in negative attitudes toward addressing spiritual and religious beliefs in clinical practice[11,12]. In the 1970s and 80s, several studies were published showing that S/R were generally associated with better mental health[1], and psychiatry residency programs began incorporating this topic in their curricula[13]. In 2016, the World Psychiatry Association published a position statement on spirituality and religion in psychiatry urging the inclusion of S/R on clinical encounters and training with the goal of providing a more holistic and comprehensive form of mental health care[14].

RELATIONSHIP BETWEEN S/R AND MENTAL HEALTH OUTCOMES

A description of the evidence for each mental health condition is described below and the summary of these results is presented in [Table 1](#).

Depression and anxiety

The relationship between S/R and depressive symptoms has been widely investigated, being one of the areas with more evidence than any other mental health outcome. In 2003, a meta-analysis conducted by Smith *et al*[15] examined the results of 147 studies that included almost 100000 participants, finding an average inverse correlation of -0.10 between S/R and depression. The same results were reported in a recent systematic review that included only longitudinal studies[16]. In that review of 152 prospective studies published up through 2017, 49% reported at least one significant association between S/R and a better course of depression, 41% showed a non-significant association, and 10% indicated an association with more depression, resulting in an overall effect size of $d = -0.18$ between S/R and depressive symptoms.

With regard to specific longitudinal studies, a 14-year follow-up study in Canada that included 12583 participants[17] found that monthly religious attenders had a 22% lower risk of depression compared to non-attenders, a result which persisted after adjustment for confounders and explanatory variables. However, spiritual beliefs were not associated with depression in this sample. Likewise, in a study that followed 114 adult offspring of parents with and without depression, investigators found that those who reported at year 10 that religion or spirituality was very important had about one-fourth the risk of experiencing major depression between years 10 and 20 compared to other participants[18].

Similar results were also observed by a 20-year follow up study[19], in which frequency of religious attendance was associated with a 43% lower risk of developing mood disorders, as well as in a prospective study of a representative sample of South-Africans[20], which found that religious affiliation and importance of religion were significantly associated with fewer depressive symptoms after 4 years of follow up.

Despite these positive findings, different results have been reported in non-Western countries. For example, a 13-year longitudinal study which investigated 67723 adults in Japan[21] found that highly religious individuals had more major depressive disorders compared to non-religious individuals, highlighting that cultural aspects could help to explain the different outcomes reported in the literature. Furthermore, a cross-sectional study of a representative sample of South Americans[22] involving 7524 participants from Argentina, Chile, and Uruguay found that highly religious women, but not men, had 50% lower likelihood of having depression. Finally, another cross-cultural study involving 21410 participants from China, Ghana, India, Mexico, Russia, and South Africa[23] found no association between depression and having a religious affiliation compared to those without.

There has also been research on the effects of S/R on the remission rate in those experiencing a depressive disorder. Koenig *et al*[24] followed 111 medically ill older patients for about a year, finding that those with higher scores on a measure of intrinsic religiousness had more rapid remissions than those with lower scores. In the Netherlands, Braam *et al*[25] found a greater remission rate among those reporting that religion was more important in their lives, and in a Brazilian study, Mosqueiro *et al*[26] found that religious attendance was the main predictor of remission of depressive symptoms in tertiary care mental health patients.

With regard to anxiety, according to the systematic review carried out by Koenig *et al*[24] in the two editions of the *Handbook of Religion and Health*, at least 299 studies have been published on this topic up through 2010. Among these studies, 49% reported an inverse association, 40% found no association, and 11% indicated a positive association (S/R associated with greater anxiety).

However, it is important to note that the evidence of S/R in anxiety is more limited than that on S/R and depression. Although several studies have found a relationship between S/R and lower levels of anxiety[27,28], others have not. For example, in a representative sample of 1091 United States adults[29], religious attendance and spirituality were not associated with anxiety disorders, similar to findings of another study[30]. Similar results were found for fear of death in older adults. For example, a longitudinal study including 155 older participants[31] found no relationship between S/R and fear of death.

In summary, there is substantial evidence for a relationship between S/R and depression, and that relationship is generally inverse in nature (*i.e.* higher S/R is associated with lower levels of depression). Nevertheless, only a few studies have examined the effect of S/R on remission of depressive disorder.

Table 1 Summary of the results of the studies included in this review

Mental health problem	Ref.	Summary of results
Depression	[15-26]	Higher levels of S/R are generally associated with lower depressive symptoms
Anxiety	[27-31]	Mixed findings with both positive and negative relationships
Suicide	[32-39]	Higher levels of S/R are generally associated with lower suicidality
Substance use disorder	[40-48]	Higher levels of S/R are generally associated with lower substance use
Psychotic disorder	[49-58]	Religious delusions are associated with a poor prognosis. Nonpsychotic religious beliefs are generally associated with better outcomes
Obsessive compulsive disorder	[59-61]	Few studies with mixed results - both positive and negative relationships
Bipolar disorder	[62-65]	Few studies, higher levels of S/R are generally associated with better outcomes
Post-traumatic stress disorder	[66-70]	S/R may serve to buffer against post-traumatic stress, generally increasing the psychological growth
Eating disorders	[71-75]	Few studies with mixed results - both positive and negative relationships

S/R: Spirituality/religiousness.

Concerning anxiety, the evidence is relatively limited, and the findings are mixed. Further studies, particularly longitudinal studies, are needed in this area.

Suicide

There is a large literature base examining the relationship between S/R, suicidal thoughts/behaviors, and completed suicide, generally indicating that those individuals with high S/R beliefs tend to have fewer of these. A systematic review published in 2016 has confirmed this finding[32]. A total of 89 articles were included in that review, with the authors finding that religious attendance was protective against suicide attempts and completed suicide, but not suicide ideation, even after adjusting for social support. Similarly, another meta-analysis[33] reported protective effect of religiousness on completed suicide (OR = 0.38), an effect that was more pronounced in Western countries and in older adults.

One of the largest studies in this area was conducted by VanderWeele *et al*[34], which included 89708 United States women aged 30 to 55 years followed for 14 years. Attending religious services was associated with a 5-fold lower incidence of suicide compared to never attending religious services. Another study in the United States that included a nationally representative sample of 30650 non-institutionalized adults [35] found that religious attendance, but not religious affiliation, was protective against suicide in a 30-year follow-up. The same results were also reported by study of a representative United States sample ($n = 20014$)[36], in which lower religious attendance was the most important predictor of completed suicide.

In a European study involving participants from 22 countries, researchers found that greater religiousness was associated with lower suicide rates, again after adjustment for multiple confounders and explanatory variables[37]. Likewise, in a study carried out in the United Kingdom with 7403 participants[38], researchers found that the rates for suicide ideation and suicide attempts were significantly lower for the religious as compared to the nonreligious individuals. It is interesting to note that the results, then, have been similar in both religious and non-religious countries.

Despite the findings above, the largest study so far concerning the relationship between S/R and suicide failed to detect differences based on religious affiliation only [39]. This study examined 1106104 participants in the United Kingdom, finding that the risk of suicide was similar for those with and without a religious affiliation, with exception of conservative Christians who had lower risk.

In summary, the evidence indicates a relationship between S/R and lower rates of suicide attempts and completed suicide. Cultural aspects, however, may influence these findings and should be considered when conducting such studies and interpreting the findings.

Substance use disorder

The role of S/R in substance use and abuse has been extensively studied during the past several decades, possibly motivated by the success of 12-steps program such as

Alcoholics Anonymous[40]. S/R has been found to be protective in terms of developing substance use disorders and may also help in the recovery from such disorders[41]. For example, in a systematic review[42] that examined the relationship between substance use/misuse and S/R, researchers found that several different aspects of religiosity were related to a reduced risk of substance use in 99 of 105 studies. A more recent systematic review[43] that included 26 articles found that religiousness ($r = -0.16$) and religious attendance ($r = -0.19$) were both inversely related to alcohol use. In a meta-analysis conducted on studies in adolescents published in 2020[44], which included 16 studies, researchers also found a protective effect for religiousness on adolescent alcohol use ($z = -0.21$). Concerning the role of S/R as an influence on recovery from substance abuse, a systematic review published in 2013[41] identified 29 studies, finding weak, but significant, positive effects.

Studies using representative samples have provided further evidence to support these findings. A representative sample of 676 adolescents in the United States[45] reported that devotion to the Divine and fundamentalist Protestant religious affiliations were associated with lower substance use (*i.e.* alcohol, marijuana, cocaine, or any contraband drug). Another United States representative and longitudinal study that included 1969 adolescents[46] found that religiousness had a buffering effect on alcohol use and binge drinking in White, but not in non-White individuals. Outside of the United States, a nation-wide study of 3007 adult Brazilians found that higher religious attendance was associated with less alcohol problems, and self-reported religiousness was associated with less harmful effects of drinking[47]. Finally, a study of a representative sample of 5387 Swiss men[48] revealed that S/R was again inversely associated with substance use (*i.e.* alcohol, binge drinking, tobacco, cannabis).

In summary, there is robust evidence on the relationship between S/R and substance use and abuse, and most studies report an inverse association (*i.e.* higher S/R is associated with less substance use or abuse). Although studies on S/R and alcohol use or abuse are more common, the same findings are being reported for other substances as well.

Psychotic disorder

Patients with psychotic disorders can often present with religious delusions (ranging from 15% to 39%), which are sometimes difficult to distinguish from nonpsychotic religious beliefs[49]. Evidence shows that religious delusions have been associated with poor functioning, longer duration of illness, and more severe symptoms[50], and often, but not always, occur in highly religious patients[51]. Nevertheless, studies examining the role of nonpsychotic religious beliefs in psychotic individuals are still relatively rare in the literature.

Once seen as a possible complication of psychotic disorders, new studies have shown that S/R could also have positive effects in these patients. Rosmarin *et al*[52] prospectively investigated 47 psychotic patients and found that positive religious coping predicted a reduction in depression and anxiety symptoms, while negative coping was associated with suicidality and more affective symptoms[53]. Mohr *et al* [54] assessed 276 outpatients with psychotic disorders in Switzerland, finding that religion was helpful in 87% of participants and was associated with better social, clinical, and psychological outcomes. In contrast, negative use of religion was associated with worse outcomes and conflict with the medical treatments offered. In a longitudinal study, Verghese *et al*[55] investigated 323 patients with a diagnosis of schizophrenia and found that an increase in nonpsychotic religious activities predicted a good prognosis in a 2-year follow up. Finally, a Croatian study with 50 psychotic patients[56] found that higher religious attendance was associated with fewer negative symptoms.

Despite this growing evidence of a positive effect of S/R on psychotic symptoms, two recent studies carried out in the general population reported different results. In the first study conducted in France[57], which involved 38694 nonpsychotic adults, religious beliefs and religious observance were both positively associated with psychotic-like symptoms and disorders. A second study of 25542 adults from 18 countries[58] also found that “increased religiousness was associated with psychotic experiences.” What might have been labeled as psychotic symptoms, however, may have involved religiously and culturally sanctioned beliefs or attitudes.

In summary, religious delusions are common among patients with psychotic disorders and may be associated with a poor prognosis. However, nonpsychotic religious beliefs are generally associated with better outcomes and improved coping with psychotic symptoms. Studies in the general population are infrequent and need replication in different cultural contexts.

Obsessive compulsive disorder

Some studies have assessed the relationship between S/R and obsessive-compulsive disorders (OCD). OCD may present with obsessions and compulsions focused on religion, and this has been well described in clinical practice. However, as in psychotic disorders, studies concerning the relationship between S/R and OCD symptoms are infrequent. Research has shown that scrupulosity, but not other OCD symptoms, varied across religious affiliations[59]. Religious attendance, but not religious coping, has been negatively associated with OCD in one study[60], and at least one other study found that religious attitudes were not related to OCD symptoms[61]. Research on the effects of S/R on OCD, therefore, is underdeveloped and more studies are needed.

Bipolar disorder

In a cross-sectional study[62] involving 168 bipolar patients, researchers found that religiousness and positive religious coping were associated with better mental health and well-being outcomes, whereas negative coping was associated with worse mental health outcomes. Another study[63] that included a sample of 164 bipolar disorder patients found that suicide attempts were less common among religious patients. In a multicenter study in Austria and Japan[64], a modest association was found between higher importance of S/R and residual manic symptoms. Finally, a 2-year longitudinal study[65] reported that positive religious coping and intrinsic religiousness predicted greater well-being after a 2-year follow up, and negative coping predicted greater manic symptoms. In summary, while studies are few, there is evidence that S/R may have a positive impact on bipolar disorder outcomes. Nevertheless, more longitudinal studies are warranted.

Post-traumatic stress disorder

Several studies have assessed the role of S/R in post-traumatic stress disorders, generally finding positive outcomes. Prieto-Ursúa *et al*[66] evaluated 1,091 Spanish individuals and found that religiousness was associated with posttraumatic growth during COVID-19 pandemic. Similar findings have been observed in other contexts such as among parents who lost children[67], civilians and veterans involved in the war in Bosnia-Herzegovina[68], survivors of a Haiti earthquake[69], and adolescents in the Gaza Strip and South Lebanon[70].

Thus, S/R may serve to buffer against post-traumatic stress, generally increasing the psychological growth following stressful situations.

Eating disorders

The relationship between S/R and eating disorders is probably one of the most unexplored areas in S/R and mental health. Most of the studies involve small convenience samples or case reports. However, a recent systematic review on this topic summarize the results from 22 studies[71], finding that strong positive religious beliefs were associated with lower levels of disordered eating and body image concerns. In contrast, a “doubtful” faith had effects in the opposite direction, resulting in worse outcomes. With regard to specific studies, King *et al*[72] surveyed 55 American college women and found that spiritual transcendence was associated with greater body satisfaction. Likewise, Goulet *et al*[73] found that spirituality and viewing the body as sacred was associated with body satisfaction and fewer eating pathology symptoms. Not all findings, however, were in the same direction. For example, a study conducted in Israel[74] failed to detect an association between being a member of an ultra-Orthodox Jewish faith tradition (*vs* non-orthodox tradition) and eating disorder symptoms among women. Likewise, a study in Muslim college women[75] found a positive association between religiosity and greater eating disorder symptoms. Thus, the effects of S/R on eating disorder symptoms severity are mixed, depending on how S/R is used in relationship to symptoms.

RELIGIOUS AND SPIRITUAL STRUGGLES AND NEGATIVE RELIGIOUS COPING

As reviewed above, most of the evidence on the relationship between S/R and mental health seems positive. However, there are also numerous patients who use S/R in a negative way (ranging from 7% to 15%)[76-78]. In this context, positive religious spiritual coping (*e.g.*, benevolent religious appraisals, religious forgiveness) often

results in better outcomes, while negative religious spiritual coping (*e.g.*, feeling abandoned or punished by God) appears to have the opposite effects on mental health [79]. For example, Fitchett *et al* [76] assessed three groups of patients (cardiovascular, oncologic and diabetic), finding that 15% had religious struggles. In that study, religious struggles were associated with higher levels of depressive symptoms and distress in all groups of patients. Similar results have been reported between negative religious coping and depressive and anxiety symptoms in hemodialysis patients [80], more symptoms of anxiety, depression, and sleep disturbance among patients with acute coronary syndrome [81], more depressive symptoms and lower life satisfaction in heart failure patients [82], higher levels of posttraumatic stress disorder in the general population [83], and greater suicidality among psychiatric patients [52].

S/R INTERVENTIONS

Several meta-analysis have examined the effects of S/R interventions on mental health, with often promising results [84–89]. The incorporation of S/R in psychological interventions (*i.e.* counselling and psychotherapy) has been explored in several of these reviews. For example, McCullough [89] found that religion-accommodative counselling was more effective than the standard care for depression. Likewise, Smith *et al* [86] found a beneficial effect of spirituality-oriented psychotherapy approaches in treating psychiatry disorders such as depression, anxiety, stress, and eating disorders.

Other reviews have not been as positive. For example, Oh *et al* [87] and Xing *et al* [88] found significant but weak evidence that spiritual interventions reduced depression, anxiety, and hopelessness in patients with cancer. Likewise, Gonçalves *et al* [84] reported that S/R interventions were effective for reducing anxiety symptoms, but not for depressive symptoms. Clearly, more rigorously conducted clinical trials are needed to firmly establish the efficacy of S/R interventions.

PROPOSED MECHANISMS

There is no single mechanism to explain the effects of S/R on mental health. Koenig and colleagues [1] have proposed that S/R is associated with human virtues (*e.g.*, forgiveness, altruism, gratefulness), and that these virtues may mediate the relationship between SR and mental health outcomes. However, other factors, such as adherence to therapy, health behaviors, and use and abuse of alcohol and drugs, may also influence this relationship. Despite several discussions on the possible pathways by which S/R affects mental and physical health [90–95], it remains unclear how S/R is related to biological factors that influence the development and course of mental disorders.

Recently, authors have attempted to identify specific markers that may help to explain the relationship between S/R and mental health. Higher levels of S/R have been associated with higher rates of brain-derived neurotrophic factor [96]; self-transcendence have been linked to serotonin transporter (SERT) availability in brainstem raphe nuclei [97], and correlations have been reported between S/R and genes for dopamine, serotonin, vesicular transporters, and oxytocin [98]. Nevertheless, it is important to note that these are preliminary studies and future research will be needed to clarify how S/R influences mental health through these biological mechanisms.

CLINICAL IMPLICATIONS

The findings from the present review have important clinical implications. Previous studies have shown that patients have spiritual needs that they wish to be addressed by health professionals [99]. Few health professionals, however, bring up S/R issues during clinical encounters [100], and the situation is even worse among psychiatrists [3]. Based on the review of research above, S/R has an important influence, one way or another, on mental health outcomes. Psychiatrists and mental health providers should be aware of these studies and be trained to address these issues in practice [101].

As highlighted in the Position Statement of the WPA [14], psychiatrists and other mental health providers should seek to understand the patient's S/R and its relationship with the diagnosis, etiology and treatment of their psychiatric disorder,

routinely consider S/R in the history taking (*i.e.* take a formal mental health spiritual history), work together with chaplains and religious leaders, demonstrate respect and sensitivity for patients' S/R beliefs, and explore the positive and potentially negative aspects of S/R on mental health. We agree with this statement and encourage the training of residents and medical students to address these issues in clinical care.

LIMITATIONS

This is a narrative review of the current scientific literature, not a systematic review. Thus, this may have resulted in selection bias with regard to the research reports that were reviewed here. The forthcoming 3rd edition of the *Handbook of Religion and Health*, however, will provide a systematic review of quantitative research examining the relationship between S/R in both mental and physical health.

CONCLUSION

The number of studies assessing S/R and mental health has been increasing over the past several decades, resulting now in a large body of evidence suggesting an impact of S/R. Most of this research has focused on depression, suicidality and substance use, and several studies have reported promising results with regard to post-traumatic stress disorder, psychosis, and anxiety. Fewer studies have examined the relationship between S/R and obsessive-compulsive disorder or eating disorders. The effects of S/R on mental health are likely to be bidirectional, and the way that S/R beliefs are used when confronting stressors (*i.e.* negative and positive) influences the results of studies now being conducted. Furthermore, the mechanisms by which S/R affects mental health remains unclear, and further studies examining such pathways are needed, as well as clinical trials examining the impact of S/R interventions on mental health outcomes. Thus, there remain many gaps in the literature that need filling in this particular area. Nevertheless, based on the current evidence, there are numerous practical clinical applications that psychiatrists and other mental health professionals should consider implementing in clinical care (particularly, the taking of an S/R history in all patients). This, we believe, will lead to a more holistic and patient-centered form of mental health care.

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