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QUALITY OF LIFE AND MENTAL HEALTH OF PATIENTS WITH RHEUMATOID ARTHRITIS. LITERATURE REVIEW

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Abstract

Background: Rheumatoid arthritis (RA) is a chronic autoimmune disease marked by persistent inflammation, joint damage, pain, and progressive functional limitations. These symptoms substantially reduce patients' health-related quality of life (HRQoL), affecting physical functioning, emotional well-being, social participation, and work capacity. In addition to physical impairment, RA is strongly associated with mental health problems. Depression, anxiety, chronic stress, and sleep disturbances occur significantly more often in RA patients than in the general population. Psychological distress not only develops as a reaction to chronic pain and disability but also contributes to increased disease activity, heightened pain perception, and reduced adherence to treatment. The relationship between mental health and quality of life in RA is complex and bidirectional: poor psychological well-being worsens physical outcomes, while disease progression further aggravates emotional difficulties. Understanding this interplay is essential for developing effective biopsychosocial management strategies. This review summarizes current evidence on the quality of life and mental health of individuals with RA and identifies key factors influencing these outcomes.

Aim. To review current literature on the quality of life and mental health of patients with rheumatoid arthritis, identifying key determinants and the interplay between psychological status and health-related quality of life.

Search strategy. A literature search was conducted in PubMed, Scopus, Web of Science, and Google Scholar using keywords: "rheumatoid arthritis," "quality of life," "mental health," "depression," "anxiety," "HRQoL." Inclusion criteria: articles published in the last 10 years, in English, focused on adult RA populations. Narrative review methodology was applied.

Results and conclusions. Evidence shows that reduced quality of life in RA is strongly associated with pain, functional limitations, fatigue, and psychological distress. Depression and anxiety are reported in up to one-third of patients and substantially worsen disease outcomes. Multidisciplinary management - including optimized pharmacotherapy, patient education, psychological support, and physical activity – d emonstrates effectiveness in improving both mental health and quality of life. Further research is needed to develop integrated biopsychosocial interventions.

Keywords: *rheumatoid arthritis, quality of life, mental health, depression, anxiety, HRQoL, chronic disease.*

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Резюме

КАЧЕСТВО ЖИЗНИ И ПСИХИЧЕСКОЕ ЗДОРОВЬЕ ПАЦИЕНТОВ С РЕВМАТОИДНЫМ АРТРИТОМ. ОБЗОР ЛИТЕРАТУРЫ

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Введение: Ревматоидный артрит (РА) — хроническое аутоиммунное заболевание, характеризующееся стойким воспалением, повреждением суставов, болью и прогрессирующими функциональными ограничениями. Эти симптомы существенно снижают качество жизни, связанное со здоровьем (HRQoL), влияя на физическое функционирование, эмоциональное благополучие, социальную активность и трудоспособность. Помимо физических нарушений, РА тесно связан с проблемами психического здоровья. Депрессия, тревога, хронический стресс и нарушения сна встречаются у пациентов с РА значительно чаще, чем в общей популяции. Психологический дистресс формируется не только как реакция на хроническую боль и инвалидизацию, но и способствует повышению активности заболевания, усилению восприятия боли и снижению приверженности лечению.

Взаимосвязь психического здоровья и качества жизни при РА является сложной и двусторонней: ухудшение психологического состояния негативно отражается на физических исходах, тогда как прогрессирование заболевания усиливает эмоциональные трудности. Понимание этих взаимодействий имеет ключевое значение для разработки эффективных биопсихосоциальных стратегий ведения пациентов. Настоящий обзор обобщает современные данные о качестве жизни и психическом здоровье пациентов с РА и выявляет ключевые факторы, влияющие на эти показатели.

Цель. Проанализировать современную литературу, посвящённую качеству жизни и психическому здоровью пациентов с ревматоидным артритом, определить ключевые детерминанты и взаимосвязь психологического статуса с качеством жизни, связанным со здоровьем.

Стратегия поиска. Поиск литературы проводился в базах PubMed, Scopus, Web of Science и Google Scholar с использованием ключевых слов: «rheumatoid arthritis», «quality of life», «mental health», «depression», «anxiety», «HRQoL». Критерии включения: статьи, опубликованные за последние 10 лет, на английском языке, посвящённые взрослой популяции пациентов с РА. Использовался нарративный метод обзора.

Результаты и выводы. Данные показывают, что снижение качества жизни при РА тесно связано с болью, функциональными ограничениями, утомляемостью и психологическим дистрессом. Депрессия и тревожные расстройства отмечаются почти у трети пациентов и значительно ухудшают течение заболевания. Междисциплинарное ведение, включая оптимизированную фармакотерапию, обучение пациентов, психологическую поддержку и физическую активность, демонстрирует эффективность в улучшении психического здоровья и качества жизни. Необходимы дальнейшие исследования для разработки интегрированных биопсихосоциальных вмешательств.

Ключевые слова: *ревматоидный артрит, качество жизни, психическое здоровье, депрессия, тревога, HRQoL, хроническое заболевание.*

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Түйіндеме

РЕВМАТОИДТЫ АРТРИТІ БАР ПАЦИЕНТТЕРДІҢ ӨМІР САПАСЫ МЕН ПСИХИКАЛЫҚ ДЕНСАУЛЫҒЫ. ӘДЕБИЕТТІК ШОЛУ.

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Кіріспе: Ревматоидты артрит (РА) – созылмалы аутоиммунды ауру, оны ұзаққа созылатын қабыну, буындардың зақымдануы, ауырсыну және үдемелі функционалдық шектеулер сипаттайды. Бұл симптомдар пациенттердің денсаулыққа қатысты өмір сапасын (HRQoL) айтарлықтай төмендетіп, олардың физикалық белсенділігіне, эмоционалдық әл-ауқатына, әлеуметтік қатысуына және еңбек қабілетіне әсер етеді. Физикалық бұзылыстардан бөлек, РА психикалық денсаулық проблемаларымен тығыз байланысты. Депрессия, мазасыздық, созылмалы стресс және ұйқының бұзылыстары РА бар пациенттерде жалпы халыққа қарағанда әлдеқайда жиі кездеседі. Психологиялық дистресс тек созылмалы ауырсыну мен мүгедектікке реакция ретінде ғана емес, сонымен қатар ауру белсенділігінің артуына, ауырсынуды күшейте қабылдауға және емге бейімділіктің төмендеуіне әкеледі.

Психикалық денсаулық пен өмір сапасының өзара байланысы күрделі және екіжақты: психологиялық жағдайдың нашарлауы физикалық нәтижелерді төмендетеді, ал аурудың үдеуі эмоционалдық қиындықтарды арттырады. Бұл өзара байланысты түсіну тиімді биопсихосоциалдық басқару стратегияларын әзірлеу үшін маңызды. Бұл шолу РА бар пациенттердің өмір сапасы мен психикалық денсаулығына қатысты қазіргі зерттеулерді қорытындылап, осы нәтижелерге әсер ететін негізгі факторларды анықтайды.

Мақсаты: Ревматоидты артриті бар пациенттердің өмір сапасы мен психикалық денсаулығы туралы заманауи әдебиеттерді талдау, негізгі детерминанттарды және психологиялық мәртебе мен денсаулыққа қатысты өмір сапасының өзара байланысын анықтау.

Іздеу стратегиясы: Әдебиеттерді іздеу PubMed, Scopus, Web of Science және Google Scholar деректер базаларында «rheumatoid arthritis», «quality of life», «mental health», «depression», «anxiety», «HRQoL» кілт сөздерін пайдалану арқылы жүргізілді. Қосу критерийлері: соңғы 10 жылда ағылшын тілінде жарияланған, ересек РА пациенттеріне арналған мақалалар. Шолу нарративті тәсіл бойынша жүргізілді.

Нәтижелер мен қорытындылар: Деректер РА кезіндегі өмір сапасының төмендеуі ауырсынумен, функционалдық шектеулермен, қажумен және психологиялық күйзеліс деңгейімен тығыз байланысты екенін көрсетеді. Депрессия мен мазасыздық шамамен үштен бір пациентте кездеседі және аурудың ағымын едәуір нашарлатады. Көпсалалы басқару – оңтайландырылған фармакотерапия, пациенттерді оқыту, психологиялық қолдау және дене белсенділігі – психикалық денсаулық пен өмір сапасын жақсартуда тиімді екенін дәлелдейді. Интеграцияланған биопсихосоциалдық араласуларды әзірлеу үшін қосымша зерттеулер қажет.

Кілт сөздер: *ревматоидты артрит, өмір сапасы, психикалық денсаулық, депрессия, мазасыздық, HRQoL, созылмалы ауру.*

Дәйексөз үшін:

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Introduction

Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by persistent synovial inflammation, progressive joint destruction, pain, and functional disability. Beyond its physical manifestations, RA substantially affects multiple dimensions of patients' lives, including social functioning, work capacity, emotional well-being, and daily activities. As a result, health-related quality of life (HRQoL) in individuals with RA is significantly lower compared with the general population and many other chronic diseases.

In recent years, increasing attention has been directed toward the psychological aspects of RA. Numerous studies have demonstrated that mental health disorders -particularly depression, anxiety, stress, and sleep disturbances - are highly prevalent among RA patients, with rates exceeding those in other inflammatory and non-inflammatory chronic conditions. These psychological factors not only arise as consequences of chronic pain, fatigue, disability, and social limitations but also play a critical role in the disease course. Evidence suggests that poor mental health is associated with increased disease activity, higher pain perception, reduced treatment adherence, and greater functional impairment.

The interplay between psychological well-being and quality of life in RA is complex and bidirectional. Mental health problems exacerbate physical symptoms and negatively affect self-management, while worsening physical health further contributes to emotional distress. This highlights the need for a comprehensive biopsychosocial approach to managing RA, integrating medical, psychological, and social support measures.

Given the growing body of research and the clinical significance of this issue, a structured analysis of existing literature is essential for understanding the determinants of quality of life and mental health in RA and for identifying effective intervention strategies.

Aim. To review current literature on the quality of life and mental health of patients with rheumatoid arthritis, identifying key determinants and the interplay between psychological status and health-related quality of life.

Search strategy. A literature search was conducted in PubMed, Scopus, Web of Science, and Google Scholar using keywords: "rheumatoid arthritis," "quality of life," "mental health," "depression," "anxiety," "HRQoL." Inclusion criteria: articles published in the last 10 years, in English, focused on adult RA populations. Narrative review methodology was applied.

Search results and their discussion.

Quality of Life in Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic inflammatory disease marked by persistent synovial inflammation, causing joint pain, stiffness, swelling and eventually erosive joint damage [43]. Over time this leads to functional disability and substantial limitations in daily activities and work performance. Consequently, RA patients report markedly lower health-related quality of life (HRQoL) than age- and sex-matched general populations, especially in physical health domains [31]. For example, fatigue has been identified as "one of the most important symptoms" in RA and is strongly associated with reduced HRQoL. In sum, the chronic pain, disability, and fatigue of RA impose heavy burdens on patients' physical, emotional and social well-being [40].

Physical Functioning and Disability. Physical symptoms and functional limitations are key determinants of QoL in RA. Chronic joint pain and stiffness directly impair mobility and independence. In one recent analysis, RA patients with poorer physical function (higher HAQ scores) were far more likely to fall into a "poor HRQoL" subgroup. Likewise, severe disease activity correlates with dramatically worse QoL: for instance, a meta-analysis found mean EQ-5D utility of ~0.78 in remission versus only ~0.47 in high-activity RA [17]. In cohort studies, higher HAQ disability and DAS28 activity scores predict worse SF-36 and EQ-5D outcomes. Notably, achieving low disease activity or remission yields substantial gains: Ma et al. reported that RA patients in sustained remission had significantly better SF-36, HAQ and EQ-5D scores than those in merely low-activity states [18]. In general, higher disease activity, greater disability and any comorbid conditions each produce independent decrements in HRQoL. Thus, controlling inflammation and preserving function are critical to improving the physical dimension of QOL in RA [27].

Fatigue in RA is pervasive and debilitating, often reducing QoL beyond the impact of joint symptoms [37]. It is experienced as overwhelming and persistent, feeding a vicious cycle of inactivity. Studies show that fatigue levels correlate with pain, disability, and mood disorders. Psychosocial factors further compound QoL reduction: anxiety and depression are very common in RA and independently predict worse HRQoL scores. For example, Katchamart et al. found that higher depression and anxiety scores were strongly associated with lower EQ-5D utilities, even after adjusting for disease severity. Social and demographic factors also matter: having employment, higher income and education is linked to better QoL, whereas older age and work disability amplify the burden [14]. In summary, fatigue and mental health profoundly affect RA patients' well-being; comprehensive care must address pain and mobility as well as emotional and social support.

Modern RA therapies have markedly improved QoL outcomes. Treat-to-target strategies aim for remission, since remission status strongly correlates with patient-reported health. Ma et al. showed that even intermittent remission yields better SF-36, HAQ and fatigue scores than low disease activity, and sustained remission yields the greatest gains. Biologic DMARDs in particular produce large improvements. Recent evidence suggests that adding biologics (e.g. TNF inhibitors, IL-6 or JAK inhibitors) significantly reduces pain, fatigue and disability while boosting physical and mental function [8]. In a narrative review, Mamasaidov et al. found that biologic therapy "significantly improve[d] QoL in RA patients by reducing pain, fatigue, and disability while enhancing physical function and mental well-being". Real-world cohorts confirm these benefits. For example, a Palestinian study found that patients treated with the TNF inhibitor etanercept had significantly higher EQ-5D indices (better HRQoL) and lower HAQ disability scores than those not on biologics. In general, more effective disease control (whether by conventional DMARDs or biologics) translates into improved HRQoL. However, treatment response varies: therapy side-effects, comorbid illnesses, and socioeconomic factors can moderate the gains in QoL. Overall, the evidence from randomized trials and cohorts indicates that aggressive therapy (aiming for remission) is associated with meaningful improvements in patients' quality of life [51].

Measurement of QoL in RA. HRQoL in RA is assessed using validated generic and disease-specific instruments. The 36-item Short-Form survey (SF-36) is widely used in RA research. It yields component scores (Physical Function, Role Physical, Bodily Pain, Vitality, etc.) that have consistently shown much larger deficits in physical domains for RA patients than in mental or social domains [9]. Functional disability is often quantified by the Health Assessment Questionnaire (HAQ) Disability Index; higher HAQ indicates more impairment. Generic utility measures like the EuroQol EQ-5D are also commonly used, especially in cohort and economic studies, to capture overall health status on a 0–1 scale. For example, Katchamart et al. used the EQ-5D in a Thai RA registry and found mean utility ~0.87, with problems in pain/discomfort and usual activities rising sharply as DAS28 and HAQ increased. Likewise, Al-Jabi et al. used the EQ-5D-5L alongside HAQ-DI and HAQ pain VAS to quantify QoL in a Palestinian cohort. These instruments are reliable and responsive: pooled analyses confirm that RA patients score far below population norms on SF-36 physical domains and have HAQ scores that worsen as disease progresses [11]. In practice, studies often report multiple measures (e.g. SF-36 PCS/MCS, HAQ-DI, EQ-5D utility) to fully capture patient-reported outcomes.

In summary, extensive literature from large cohorts, trials and meta-analyses uniformly shows that RA significantly impairs physical functioning and overall well-being. Pain, fatigue and disability are the principal drivers of low QoL in RA. Effective treatments – particularly when they achieve sustained remission – tend to restore HRQoL toward normal levels [38]. Validated instruments like the SF-36, HAQ and EQ-5D are essential for quantifying these outcomes. Ongoing research emphasizes the multifaceted nature of QoL in RA and the need for comprehensive management to address both the physical and psychosocial dimensions of this chronic disease.

Mental Health in Rheumatoid Arthritis

Rheumatoid arthritis (RA) is associated with a strikingly high prevalence of mood disturbances. Studies report that depression affects roughly 20–40% of RA patients and anxiety affects 25–70%, far above general population rates [34]. These disorders are often *underdiagnosed*. For example, one cross-sectional study found only 10% of RA patients had a recorded depression diagnosis, but standardized screening revealed depression in 30–34% and anxiety in ~32% [22]. Risk factors for depression in RA include longer disease duration, low income or education, and chronic inflammation [4]. Importantly, RA with depression or anxiety is linked to worse clinical outcomes: higher pain and DAS28 activity scores, more fatigue and disability, lower treatment adherence, and higher mortality. In one large study, RA patients with depression had significantly worse DAS28 (4.36 vs 3.70), greater fatigue, and poorer physical function than those without [30]. Overall, "depression and anxiety are highly prevalent and underreported in the RA population and are associated with higher levels of pain, physical disability, and disease activity". Clinicians are urged to screen routinely for mood disorders since they predict *poorer quality of life and increased disease severity* in RA [6].

Depression and anxiety in RA often occur together and exacerbate one another. Many RA patients report chronic stress and worry about disease flares, disability and future health, which can trigger or worsen mood symptoms. Coping resources vary: RA patients commonly use active problem-solving, planning, acceptance, and (more so than controls) religious coping. However, under high stress or inflammation, patients may resort to denial or catastrophizing, which are maladaptive. For example, one study found that RA patients with high stress had *twice* the inflammatory marker (CRP) levels of those with low stress [48], and as CRP/DAS28 rose, patients increasingly used denial coping. In general, positive coping (support-seeking, acceptance) is linked to better outcomes, whereas catastrophizing leads to more pain, fatigue and disability [19]. These findings suggest that stress management could be key to controlling inflammation in RA.

Sleep disorders are strikingly common in RA and interwoven with mood. Across studies, 30–42% of RA patients report poor sleep quality or insomnia. Poor sleep is strongly associated with anxiety and depression: one cross-sectional analysis found anxiety increased the odds of poor sleep by ~5× and depression by ~9× [24]. Compared to healthy controls, RA patients have significantly shorter sleep duration, lower sleep efficiency, and more sleep disruptions, along with much higher daytime sleepiness [33]. As disease activity rises, sleep quality consistently worsens. The interaction is bidirectional: poor sleep can amplify pain perception and mood symptoms, and mood disorders further impair sleep. For example, women with RA and depressive symptoms had significantly poorer Pittsburgh Sleep Quality Index scores (10.1 vs 7.3) and more fatigue than those without depression [41].

Poor sleep and mood combine to erode quality of life. RA patients commonly report sleep disturbance contributing to chronic fatigue and functional impairment. In one study, high disease activity was correlated with worse sleep and higher anxiety/depression scores, while both worse mood and poor sleep strongly predicted lower physical and mental health on the SF-36 survey [20]. Clinicians should assess sleep (e.g. with the PSQI) especially in depressed or anxious patients, as treating insomnia may improve overall outcomes.

Beyond depression and anxiety, RA carries elevated risk for other psychiatric conditions. Population studies show that RA patients have higher incidence of bipolar disorder and possibly other mood-spectrum illnesses. One cohort study found that RA patients were significantly more likely than matched controls to develop depression, anxiety disorders, and bipolar disorder over time. Women and socioeconomically disadvantaged RA patients are particularly at risk. In practice, chronic pain syndromes also overlap – e.g. up to ~40% of RA patients screen positive for fibromyalgia, which often coexists with depression and anxiety (though not fully covered here). Overall, RA should be viewed as a systemic illness in which psychiatric comorbidities are part of the disease burden, leading to worse prognosis and highlighting the need for integrated care [32].

Effective coping skills can mitigate psychological distress. Studies show RA patients often use active coping, planning and acceptance strategies; religious coping is also more common in RA than in controls. Engagement coping (seeking emotional/instrumental support, positive reframing) is reported by many patients, especially women. In contrast, denial or escape coping tends to surface when patients feel overwhelmed – a pattern that correlates with higher CRP and disease activity [10]. Maladaptive coping (helplessness, rumination, catastrophizing) is linked to increased pain and fatigue. Interventions such as coping skills training and patient education aim to teach adaptive strategies (problem solving, relaxation, realistic goal-setting) to reduce stress and perceived pain. Indeed, trials of structured self-management programs (often including education and coping skills) have shown improvements in adherence, mood and function in RA [7].

Evidence strongly supports the benefit of psychological treatments in RA. A recent meta-analysis of 21 trials found that psychological interventions (CBT, relaxation, education, etc.) produced a *moderate* average effect size (Hedges' g≈0.40) on RA outcomes [36]. In practice, cognitive-behavioral therapy (CBT) and mindfulness-based programs are most studied. For instance, a 2025 randomized trial of online CBT vs mindfulness-based stress reduction (MBSR) found both approaches significantly reduced pain interference and depression compared to a waitlist. Notably, MBSR outperformed CBT in improving functional ability and reducing *fear of disease progression*, while CBT yielded a slight edge in reducing pain intensity by 6-month follow-up. Both treatments had effect sizes comparable to in-person therapy [42]. In another trial, a digital CBT program ("Reclarit") significantly improved the SF-36 mental score over usual care, and led to reductions in depression, anxiety, fatigue and work/social impairment [3].

Guidelines now endorse integrating psychosocial care. EULAR and ACR recommend multidisciplinary management of RA, including nonpharmacologic strategies. In particular, CBT has demonstrated consistent benefits for mood and fatigue in RA. Mindfulness-based interventions (MBSR, MBCT) have likewise been shown to ease psychological distress and even pain perception, making them valuable options [49]. Patient education and self-management programs, which often include coping skills training, have been found to enhance self-efficacy and treatment adherence. Overall, psychosocial therapies in RA can improve quality of life, mood, and sometimes even disease activity, supporting a holistic biopsychosocial approach to care [29].

Key Points: Depression and anxiety are very common in RA and worsen pain, disability and quality of life. Sleep problems and fatigue often coexist with mood symptoms. Stress and maladaptive coping (e.g. denial, catastrophizing) are linked to higher inflammation. Effective interventions (CBT, mindfulness, education) have moderate-to-large effects on psychological outcomes in RA. Treating mental health in RA is crucial: distress predicts higher disease activity and mortality [50], so integrated mental health support is recommended to improve overall RA outcomes.

Interplay Between Quality of Life and Mental Health in Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic autoimmune disease causing joint inflammation, pain, fatigue and disability, all of which can profoundly impair a patient's health-related quality of life (HRQoL). HRQoL encompasses physical, mental and social well-being, and in RA it reflects the combined impact of pain, functional loss and psychological distress [35]. In practice, the physical burden of RA (pain, fatigue, disability) often serves as a chronic stressor that triggers depression and anxiety. Several studies note that RA patients report much higher levels of psychological stress than healthy individuals. In one case–control study, RA patients had significantly higher depression, anxiety and stress scores (assessed by DASS-21) than age-matched controls. Thus, pain and fatigue inherent to RA can diminish QoL and precipitate mental health problems [26], creating a complex clinical picture where physical and emotional burdens reinforce each other.

Psychological comorbidities are common in RA. Cross-sectional surveys estimate that depression affects roughly one-quarter to one-half of RA patients, and anxiety is similarly common. For example, Uda *et al.* (2021) reported that 17.6% of RA patients had anxiety symptoms and 27.7% had depression symptoms (defined by HADS≥8) [46]. Other studies report even higher figures: 26–46% of patients experience anxiety and 15–34% report depressive symptoms. In early arthritis cohorts, nearly 48% of newly diagnosed RA patients had moderate-to-severe depression (versus 27–32% in pre-RA arthralgia/undifferentiated arthritis). These high rates underscore that RA patients are at elevated risk for mood disorders [45]. Importantly, the mental health burden is not merely a reaction to disease: even after adjusting for demographics and disease activity, RA patients show higher prevalence of depression and anxiety than the general population [23].

Depression, anxiety and chronic stress exert powerful negative effects on HRQoL in RA. Numerous studies link poor psychological health to worse QoL scores across multiple domains. In a nationally representative U.S. survey, Alwhaibi (2025) found that RA patients with *comorbid* depression and/or anxiety had significantly lower HRQoL than those with RA alone. In that study, patients with both depression and anxiety had the lowest scores on both physical and mental HRQoL scales, even after controlling for age, comorbidities and lifestyle factors [16]. Similarly, Beşirli *et al.* (2020) used the Hospital Anxiety and Depression Scale (HADS) and SF-36 in 50 RA patients and found strong negative correlations between HADS anxiety/depression and *all* SF-36 domains. In other words, higher anxiety or depression scores were associated with poorer physical function, role limitations, vitality, social function, etc., on the SF-36. The study concluded that "anxiety, depression, quality of life, disease activity and suicidal ideation are related" in RA, and that patients with both anxiety and depression had significantly lower SF-36 scores in every dimension [5].

Stress and psychological distress have similar effects. Khan *et al.* (2021) reported that RA patients had significantly higher perceived stress than healthy subjects. Chronic stress in RA often comes from ongoing pain and fatigue, which in turn can amplify feelings of helplessness or depression. High stress and mood symptoms contribute to sleep disturbances and fatigue, further degrading QoL. One recent survey of RA patients on biologic therapy found alarmingly low QoL and high distress: mean QoL scores (on a disease-specific scale) were "low" and psychological distress (Kessler scale) was "very high," with extreme depression observed in many participants. Notably, this study found a strong inverse correlation between QoL and distress levels – patients with poorer QoL had much higher depression/anxiety scores. Taken together, these findings indicate that mental health disorders substantially magnify the HRQoL burden of RA [39].

The relationship is bidirectional: not only do depression and anxiety worsen QoL, but the converse is also true. Persistent RA symptoms, disability and social limitations can erode self-esteem and resilience, fueling depression and anxiety. For example, chronic pain and functional loss – key components of low QoL – serve as continuous stressors that may precipitate psychological distress [15]. Conversely, several large cohort studies show that depression in RA leads to worse physical outcomes, suggesting a vicious cycle. In the JAMA Network Open cohort, Jeon *et al.* (2024) note that comorbid depression is linked to *"exacerbation of pain, increased disease activity, [and] poor health-related quality of life"* in RA [47]. In other words, depression can amplify the perception of pain and disability, further lowering QoL. This vicious cycle has been quantified: the risk of depression onset is ~1.7-fold higher in RA patients than in controls, and conversely depressed individuals have an elevated incidence of developing RA. Torlinska *et al.* (2024) explicitly note the bidirectional association: having RA increases depression risk, while pre-existing depression increases future RA risk. In early RA cohorts, even subclinical depression or anxiety symptoms predict poorer response to treatment and lower QoL over time [1].

In summary, a negative feedback loop can arise in RA: chronic joint pain and disability reduce QoL and induce stress, which can trigger depression/anxiety; those mood disorders then worsen pain perception and coping, leading to further QoL decline. Clinically, this means that low HRQoL and mental distress often reinforce each other, underscoring the need for comprehensive care. As Jeon *et al.* conclude, "preventing and managing depression can be an effective approach to enhancing overall health and quality of life in [RA] patients" [44], and many authors advocate integrating rheumatologic and psychiatric treatment to break the cycle.

Researchers use a variety of validated instruments to measure HRQoL and mental health in RA:

- SF-36 (Short Form-36 Health Survey) – A generic HRQoL tool yielding physical and mental component scores. For example, Beşirli *et al.* found that RA patients with higher HADS anxiety/depression had uniformly lower SF-36 subscale scores [2]. SF-36 allows comparison to population norms and other diseases.
- EQ-5D – A health utility index (mobility, self-care, pain, etc.). Torlinska *et al.* used EQ-5D to show that HRQoL in RA patients was significantly lower than in general population or those with less severe arthritis [13]. EQ-5D scores in their RA cohort were comparable to those of severe chronic conditions, illustrating the QoL impact.
- HAQ-DI (Health Assessment Questionnaire–Disability Index) – An RA-specific measure of physical function. Higher HAQ-DI means more disability. Uda *et al.* reported that HAQ-DI >0.5 was strongly associated with both anxiety and depression symptoms in RA (OR≈3.5 for anxiety) [12]. HAQ-DI is widely used to link disability with QoL and mood.
- PHQ-9 (Patient Health Questionnaire-9) – A 9-item depression screener. Many RA studies classify patients by PHQ-9 score: for instance, Torlinska *et al.* defined "moderate-to-severe depression" as PHQ-9 ≥10 and found 48% of early RA patients met this threshold [21]. PHQ-9 is sensitive for depressive symptom severity in RA.
- HADS (Hospital Anxiety and Depression Scale) – A 14-item scale with separate anxiety (HADS-A) and depression (HADS-D) subscales, designed for patients with medical illness. Both Beşirli *et al.* and Uda *et al.* used HADS in RA cohorts [28]. In Beşirli's study, every SF-36 domain correlated negatively with HADS-A/D, illustrating how HADS can quantify mental health impacts on QoL [25].

These tools allow standardized assessment. For example, in the cited studies: SF-36 and EQ-5D quantified QoL, HAQ-DI measured disability, PHQ-9 and HADS measured depression/anxiety, and all were significantly interrelated in RA patients. Consistently, worse scores on mental health scales corresponded to lower QoL scores on SF-36 or EQ-5D [52].

Conclusion. In adult RA patients, depression, anxiety and chronic stress profoundly erode quality of life, and conversely poor physical and social functioning can worsen psychological well-being. Observational studies and cohorts show that up to half of RA patients struggle with mood disorders, and that these comorbidities are linked to significantly lower HRQoL across physical and mental domains. The relationship is bidirectional: RA markedly increases the risk of subsequent depression, and depression/anxiety predict worse RA outcomes (more pain, higher disease activity and reduced treatment response) and further QoL decline.

These findings underscore that RA management must address mental health as well as physical symptoms. Routine screening for depression and anxiety (e.g. with PHQ-9 or HADS) and interventions such as psychotherapy or integrated care can improve overall HRQoL. Ultimately, breaking the negative cycle of pain–poor QoL–depression can enhance both psychological well-being and functional outcomes in rheumatoid arthritis.

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