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Literature Review

Prevention of Mental Health Disorder among Adolescents during the COVID-19 Pandemic

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ABSTRACT

Introduction: The COVID-19 pandemic has negative impacts on mental health and is commonly found in adolescence. Mental health disorders, such as anxiety and depression, can increase the risk of many physical health problems and reduce performance in the work and social environments as well. Several studies about COVID-19 and anxiety showed that the younger population (especially young adults) tended to have more anxiety. When compared to the older population, the younger population also uses social media more often which can cause anxiety due to information overload and misinformation. **Objective:** This literature review is aimed to discuss further and broaden insight into the importance of mental health awareness and efforts to prevent mental health disorders among teenagers during the COVID-19 pandemic. **Methods:** Conducting previous studies from PubMed and Google Scholar using these following keyword (mental health) AND (anxiety) AND (depression) AND (covid 19) AND (adolescents) by the journal publication filter for the last ten years. **Results:** Health promotions are mainly concerned with mental health determining factors and hope for people to be healthy or healthier. Mental health promotions intend to increase an individual's mental capacity, overcome difficulties, and encourage someone to seek the necessary health help if they feel mental health disorder. It also promotes the prevention of stigma against mental disorders. In the COVID-19 pandemic, protective intervention such as resilience and enhanced social support plays important role in lifestyle changes. **Conclusions:** Understanding the symptoms and prevention of mental health disorders such as health promotion and protection from specific mental illnesses are becoming the primary prevention of mental health problems.

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INTRODUCTION

An individual's health is not only physical but also includes mental health. Mental health is an aspect that must be considered since it is related to daily events that happened to an individual [1]. Mental health disorder are a condition when there is an impairment in the mental health of an individual which is characterized by changes in emotional status, thinking, behavior, or the combination of these changes [2]. It can occur in all groups of age, from children to the elderly. According to related studies, the median age at onset occurred during the neurodevelopmental, which is at the age of adolescence, 14 years old, and has a peak at the onset before the age of 18 years old [3]. This Corona Virus Disease 2019 (COVID-19) pandemic not only causes physical problems, but also it becomes a stressor and gives problems to mental health. Self-quarantine and isolation have negative impacts on mental health because of loss of freedom, boredom, and separation from others [4]. Depression and anxiety have reported an increase three times, compared to before quarantine. The most affected groups are aged 16-44 years old, women, and students [5].

According to the Centers for Disease Control and Prevention (CDC), physical and mental health is equally important. Mental health disorders, such as depression, can increase the risk of many physical health problems, especially long-term conditions, for example diabetes, heart disease, and stroke [6]. Meanwhile, during this pandemic, good immune and physical health are needed to prevent getting the disease. Therefore, this literature review is aimed to discuss further and broaden insight into the importance of mental health disorders and efforts to prevent mental health disorders among teenagers during the COVID-19 pandemic.

REVIEW

Mental Health Issues among Adolescents during COVID-19 Pandemic

Definition

Anxiety is defined as mood and affect disorders, including anxiety and fear. Anxiety is a feeling of anxiousness or unknown fear and anticipation towards an unspecified threat or object, whereas fear is an emotional response to a known or imminent threat or object. Anxiety is followed by psychological and somatic components. Psychological components such as anxiousness, nervousness and tension, a sense of unsafe, scared, and easily startled and the somatic components consist of palpitations, sweaty palms, increase in blood pressure, and heart rate [7, 8]. All of those components above arouse in response to an unreasonable perception of ascertaining danger or threats. Anxiety disorders commonly found in adolescence are separation anxiety disorder, generalized anxiety disorder, social anxiety disorder, and selective mutism [9].

Based on DSM-5, anxiety can manifest as excessive anxiety and worry, hyperactivity of the motoric and autonomic nervous systems. In Generalized Anxiety Disorder (GAD), free-floating anxiety is the pathognomonic feature of this disorder. Whereas, panic disorder is an immense attack response with anxiety, confusion, and unorganized hyperactivity which happen episodically.

Depression is a mood and affects disorders with psychological components and somatic components. Psychological components present are sadness, worthlessness, feelings of failure, loss, hopelessness, and pathological guilt. The somatic components included are anorexia, constipation, clammy skin, decrease in blood pressure, and heart rate. Depressive patients usually have sleeping disorders, anorexia, and loss of desire to work and socialize, and it is commonly found to have a negative view of the world and themself. Depressive disorders can manifest as withdrawal from society or can be seen as agitation or anxiety [7, 9]. According to the Diagnostic and Statistical Manual of Mental Disorder – Fifth

Edition (DSM-5) included in Depressive disorders are disruptive mood dysregulation, major depressive disorder, persistent depressive disorder, premenstrual dysmorphic disorder, depressive disorder induced by substances/drugs, and depressive disorder due to other medical conditions [8].

Adolescence is a critical period of a developmental and transitional stage in humans. It is characterized by the maturation of the brain and body, increased socialization, improvement in abilities, and the transition to independence. The developments are critical for both physical and interpersonal skills required to live in society, and those skills improve throughout adolescence to adult levels [10]. According to the World Health Organization (WHO) and Indonesia's Ministry of Health in its program, an adolescent is a person aged 10 to 19 years. Whereas, according to Indonesia's constitution No. 4 of 1979 regarding child welfare, adolescents are individuals who have not reached the age of 21 years and are not married [11, 12].

Adolescence takes place through 3 stages. Early adolescence (10-14 years) is characterized by a rapid increase in growth and physical maturation. Middle adolescence (15-16 years) is characterized by almost complete pubertal growth. They also develop new thinking skills, recognize their maturity, and establish emotional and psychological distance from their parents. Late adolescence (17-20 years) is marked by preparation for adult roles, including clarification of job goals and internalization of a personal value system [12].

Epidemiology

The 2018 Indonesian Basic Health Research data shows that mental health problems are around 9.8%. It can further increase with the current COVID-19 pandemic due to increased risk factors during pandemic. Depression and anxiety are the most common mental health conditions in the general population with more than 264 million people affected [13–15]. At its worst, depression can lead to suicide, which is the second leading cause of death in 15-29-year-olds with almost 800,000 death per year [16].

In 2015, about 4.4% of the world's population experienced depression. Depression occurs in 5.1% of the total female population and 3.6% of the male population. The prevalence of depression varies from region to region in the world, with most cases occurring in Southeast Asia (27%) and the lowest in Africa (9%). Depression can occur in all age groups and is highest at the age of 55-74 years [14, 17]. Based on data from Basic Health Research in 2013, depression and anxiety disorders occur in about 14 million people (6%) of the entire population in Indonesia [18]. Depression does not cause death directly. The number of deaths due to depression is due to suicide. There are about 42,000 suicide deaths due to depression per year or about 13 deaths per 100,000 people [19]. The presence of depression also increases the risk of death of a person with chronic diseases, such as diabetes mellitus, cardiovascular disease, and so on [20, 21]. According to Basic Health Research (Riskesdas) records from the Ministry of Health of the Republic of Indonesia 2018 [22], the prevalence of emotional disorders in the population aged 15 years and over increased from 6% in 2013 to 9.8% in 2018. The prevalence of depression sufferers in 2018 by 6.1%. The impact of the COVID-19 pandemic on psychosocial conditions in Indonesia is also evident from the results of Moh Abdul Hakim's survey for 7 days at the beginning of the PSBB or local lockdown and the Policy Brief of the Social Psychology Association [23]. Hakim's survey results showed that 27% of the 1,319 participants experienced acute stress due to social restrictions, lack of basic needs, threats of infection, and behavioral adjustments.

In Indonesia, one out of five people affected by the COVID-19 pandemic may suffer anxiety [24]. Several studies about COVID-19 and anxiety show, the younger population (especially young adults) is

more prone to suffer anxiety compared to the older population [25–27]. It happens because most the young adults had to adapt to additional changes in their daily routine, such as a new online educational or work environment [25]. Moreover, young adults are also likely to overthink their future. The delay in academic study has made students feel anxious because it is considered that it can interfere with their plans to continue their further academic studies. In addition, social media which is more used by young adults often causes anxiety due to misinformation and/or information overload. Older people are presumed to have less anxiety, more resilience, and better emotional management because they have more life experiences than young people [27].

Etiology

The etiology of anxiety disorder is caused by an interaction of biopsychosocial factors. Clinically significant syndromes are produced when genetic vulnerability interacts with stressful or traumatic situations. Anxiety can be caused by various reasons, such as medication, substance abuse, trauma, childhood experiences, and panic disorders [28]. Some studies said anxiety disorders are vastly heterogeneous and that the relative roles of these factors are likely to differ. For example, panic disorder has a stronger genetic basis than others, however, it has not been identified yet. While others are mostly based on stressful life events [29].

The etiology of major depressive disorder is multifactorial. On genetic factors, depressed individuals' children have a 3 times greater risk of developing depression than the general population. Apart from genetics, environmental factors also play a major role in depression. However, depression is not always related to genetic factors, it can also occur in people with no family history [30, 31]. Based on some available evidence it was found that the role of genetic factors was lower in late-onset depression than in early-onset depression. In the elderly, several potential biological risk factors for depression have been identified. Higher rates of depression are mostly associated with neurodegenerative diseases, stroke, seizure disorders, cancer, and chronic pain. In addition, psychosocial risks, such as traumatic events, lack of social support, caregiver burden, financial problems, interpersonal difficulties, and conflict can trigger depression [32].

Risk Factor

Anxiety

Teenagers from all over the world are facing mental problems due to COVID-19. Many adjustments must be done by society, especially teenagers during this pandemic. These adjustments may become one precipitating factor among several factors that can affect the mental health of teenagers during this pandemic such as stressful life events, extended home confinement, worries, excessive internet use, and social media. Therefore, the individual's ability to seek and utilize all available resources and therapies in these limited circumstances is very important [33].

Another particularly interesting risk factor is the status of an only child. Teenagers who are only children tend to think their parents are overprotective during this pandemic, which will result in more symptoms of depression and anxiety. In addition, during this pandemic, teenagers are also isolated from their peers and other supporting adults. Therefore, sibling relationships may be a protective factor for adolescents' mental health, where the presence of siblings can make them feel less lonely and can also be a supportive persons for one another [34].

One of the factors that should not be ignored as well as the family health condition. In a recent study, it was found that when a teenager has a family member who has a COVID-19 infection, they could be predicted to have symptoms of depression and anxiety. Children perceive their parents would be more protective and harsher toward them during the COVID-19

pandemic. Other risk factors that can also place adolescents at a higher risk of mental disorders during the pandemic are adolescent girls, the upper class, the only child in the family, and known family members [34].

Depression

There are two types of depression risk factors, which are specific and non-specific depression risk factors. In terms of the specific ones, a parent's history of depression boosts their children's risk by 2 to 4 times. Poverty, marital violence, and child maltreatment are among the non-specific factors that raise the risk. There are protective factors that include adequate family support, emotional abilities, and coping mechanisms. It helps people deal the problems more effectively [35]. Adolescents with a history of depression who have lost family support often experience prolonged psychological suffering.

During the COVID-19 pandemic, Senior high school student is at risk factors for depression and anxiety symptoms in terms of grades; the higher the grade, the higher the risk of depressive and anxiety symptoms [36]. The unexpected death of someone dear to them, such as family members or friends, can increase the risk of depression. The female gender has a higher risk factor for depression and anxiety symptoms as well. Family confinement may be a source of intra-familial violence during the COVID-19 pandemic, particularly among adolescent girls. Because women and girls are more vulnerable to gender-based abuse, adolescents escape the surveillance of experts or other adults who might have noticed their discomfort in normal social situations, especially sexual violence. Harsh lockdown, fear of infection, and its consequences could increase the risk of depression as well [37].

Diagnostic Criteria

Diagnosis of depression contains the triad of symptoms, which are depressed mood, loss of interest or pleasure, and loss of energy or increased fatigue. Other symptoms include reduced concentration and attention, reduced self-esteem and self-confidence, feeling worthless or guilty, pessimistic about the future, thoughts of death or suicide, trouble sleeping or sleeping too much, and changes in appetite (weight loss or gain unrelated to dieting). The symptoms appear for at least 2 weeks, but shorter periods may be clarified if symptoms are severe and progress rapidly.
As stated by DSM-5, Diagnostic for generalized anxiety disorder is excessive anxiety and worry that is difficult to control lasting for at least 6 months about several events and activities. The anxiety and worry have to also be associated with three or more of the following symptoms (with at least some symptoms having been present for more days than not for the past 6 months); restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, and sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep). These physical symptoms, anxiety, and worry cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. These complaints are not attributed to the physiological effects of a substance or another medical condition, nor should they be better explained by another mental disorder [8].
Mixed anxiety and depression disorder is a category that should be used when symptoms of anxiety and depression are both present, but neither is predominant, and neither type of symptom is present to the extent that justifies a diagnosis if considered separately. When both anxiety and depressive symptoms are present and severe enough to justify individual diagnoses, both diagnoses should be recorded, and this category should not be used.

Prevention of Mental Health Issues for Adolescents during the COVID-19 Pan-

demic

Health Promotion

According to WHO, mental health promotion is an activity to create supportive environmental conditions and enable individuals to make healthy lifestyle adjustments. It aims to strengthen and improve health behavior and preventive measurements which can help prevent and tapers risk factors of diagnosable mental disorder emergence [38]. Health promotions are mainly concerned with mental health determining factors and hope for people to be healthy or healthier. In conclusion, mental health promotions intend to increase an individual's mental capacity, overcome difficulties, and encourage someone to seek the necessary health help if they feel mental health disorder. In addition, health promotion promotes the prevention of stigma against mental disorders [39]. WHO explained that mental health policy covers the promotion of mental health and is not limited to health, but also education, employment, justice, transportation, environment, etc. Mental health promotion uses a system or organizational approach, therefore, requires the involvement of various sectors. It includes whole organization such as the government and not just medical personnel. In the end, mental health services are for those who tend to need support before serious problems occur [38].

The COVID-19 pandemic had a significant impact on our lives. Many of us face challenges that can create stress, exaggerate, and cause emotional changes in adults and children [40]. There are many ways to manage stress, including:

- Take a break from watching, reading, or listening to the news
- Take care of your body: Take deep breaths, healthy diet, exercise routinely, rest accordingly, avoid excessive alcohol, tobacco, and substance use, and get vaccinated with a COVID-19 vaccine as well.
- Try to practice your hobbies
- Talk about your concern and feelings to someone you trust
- Participate more in your community online, through social media, or by phone or mail.

Effective intervention strategies and risk factors for major mental health problems differ according to the age and gender of the target population [39]. In adolescence, there are developmental changes due to physical and chemical alteration in the brain. These changes affect adolescents mental health.

The most distressing issue for teenagers in the pandemic is not being able to see their friends, with the second place being fear of their friends or family getting sick or dying from COVID-19. On the contrary, they are indifferent towards getting ill or dying from COVID-19 [41]. Health promotion in adolescents can involve all sectors, including the education sector. What could be done is to create a curriculum containing physical and mental health to introduce teenagers to a healthier life. In addition, for adolescents outside of school, it may be possible to do so through the leader of the residence (village head, family head, and others). It could be started with life skills training to prevent the spread of COVID-19 and maintain the mental health of teenagers. COVID-19. For teenagers who use social media, certain groups or sectors can carry out health promotions such as conducting seminars on mental health during a pandemic or online posters containing ways of mental management during a pandemic [38].

Protection from Specific Mental Illness

Modifying risk factors and reinforcing protective factors are substantial to prevent mental illnesses such as depression [42]. Depression has modifiable and unmodifiable risk factors which predispose to an increase in the onset, severity, and longer duration of the health problems. Protective factors are conditions that can increase people's resistance to risk factors and disorders [42]. Risk factors and protective factors for mental disorders include social, economic,

environmental, individual, and family factors. Risk factors of mental illness such as lack of education, peer rejection, isolation and alienation, poverty, access to drugs and alcohol, violence, unemployment, child abuse, and parental mental illness during infancy and early childhood, etc. are associated with increased incidence of depressive disorder [42, 43]. Protective factors such as empowerment, social support, positive interpersonal relationships, etc. [42]. Preventive interventions such as school-based programs targeting cognitive, problem-solving, and social skills of children and adolescents are reported to be able to reduce major depressive symptoms [44]. A study by Klim-Conforti et al., also showed that cognitive-behavioral therapy can reduce the incidence of suicide, emotional management, self-concept, interpersonal difficulties, depression, and anxiety in junior high school students during the COVID-19 pandemic. Prevention of risk factors is influenced by prenatal and/or early childhood programs that can support parents' skills by teaching them about children's behavioral patterns and social skills [42, 45]. Based on the study by Wolf et al., college student that does physical exercise (moderate to intense particularly) during the COVID-19 pandemic have lower chances of presenting depression or anxiety symptoms [46].

In the COVID-19 pandemic, protective intervention such as resilience and enhanced social support plays important role in lifestyle changes (50,51). It is supported by a study that shows that a high level of resilience results in a low level of anxiety [48]. Messages of hope and social protection when implemented in hospitals and the community are said to enhance resilience and the ability to successfully react in social settings. These messages not only discuss the actual risks of being infected but also mentions containment measures that are available (53). A higher and more significant perception of social support can reduce the likelihood of increased psychological distress and psychiatric conditions. Therefore, effective communication and adequate psychological services should be implemented in the community to reduce the psychological and psychosocial effects of the COVID-19 Pandemic [49].

CONCLUSION

The COVID-19 pandemic gives rise to various mental health problems among adolescents, with the most frequent problems happening are depression and anxiety. As previously explained, knowledge about mental health is important, as well as its effort to prevent health problems. Both depression and anxiety are mood and effects disorder which is also followed by psychological and somatic components. By understanding the symptoms well, we could do some treatments to reduce fatal incidents such as suicide. Health promotion and protection from specific mental illnesses are becoming the primary prevention of mental health problems. Health promotions for teenagers are best done at school, such as creating a curriculum containing physical as well as mental health and life skills training. Besides that, social media can also be helpful for mental health promotion, especially in this pandemic era. While specific protection is carried out by modifying risk factors and reinforcing protective factors. Risk factors as well as protective factors are individual and can arise from various aspects of life.

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