Entry
Depression in Elderly People

Teresa Catarina Paiva 1, Luís Soares 1,* and Ana Lúcia Faria 2

1 Department of Psychology, University of Madeira, 9000 Funchal, Portugal; 2071419@student.uma.pt
2 NOVA Laboratory for Computer Science and Informatics, Department of Psychology, University of Madeira, 9000 Funchal, Portugal; anafaria@staff.uma.pt
* Correspondence: lsoares@staff.uma.pt

Definition: Depression is not a sign of weakness, nor a lack of will or laziness. It is not a simple “being sad” or bored, but rather a pathology that needs intervention, treatment, and monitoring by professionals with expertise in mental health. It is a disorder that impacts the lives of people who do not receive timely help affecting not only the individual himself in his feelings, thoughts, and behaviors but also harming his relationships and daily life and is prevalent among elderly people. Depression manifests through multiple symptoms, is caused by numerous factors, and is preventable with specific practices. It is described as the “most frequent mental health problem worldwide,” has a higher prevalence in women, is different from mourning and sadness, and needs to be addressed to avoid extreme situations, such as suicide.

Keywords: depression; suicide; sadness; suffering; elderly

1. Introduction

According to Brito et al. [1], “Depression is one of the conditions that contributes the most to the global burden of diseases related to mental health” (p. 2). Considering this idea, it is essential to portray a theme that the literature points out as necessary to alert and raise awareness among the population and to allude to the need to intervene efficiently in this area. Depression is a common mental disorder that physically and mentally affects the individual [2]. The number of people with this problem explains the term “common” since, according to WHO [3], 280 million people suffer from this pathology, where 5% are adults, and 5.7% are older adults over 60.

The symptoms of this pathology include sadness, fatigue, guilt, uselessness, recurrent thoughts of death, lack of concentration, lack of self-esteem, and loss of interest and pleasure in previously gratifying activities. It also has implications in appetite, causing a lack of or excess hunger, which leads to weight loss or gain; in sleep, with opposite extremes, i.e., individuals experience extra rest or insomnia; and in decision making, given the lack of a future perspective [4–6].

There are multiple causes associated with this disorder, such as external (situations of loss, work problems, economic issues), hormonal (pregnancy and menopause), physical (stroke, infections), and even genetic (inheritance) [7]. However, it can arise without apparent cause and explanation (the person feels they have everything and has no reason to feel depressed). It accounts for its complexity since “many factors can make us feel depressed even when we believe we should feel happy” [8] (p. 5).

Therefore, given the range of symptoms, depression is characterized as a “sad, empty or irritable mood, clear variations in affect, associated with somatic, cognitive and physical changes” [9] (p. 233). It is essential to mention that, given these attributes, the individual is compromised at the cognitive level and in their daily activities due to the amount and intensity of these symptoms, so there is a distinction between mild, moderate, and severe depression [2,5,6,9].
The study period was limited to 20 years (from 2002 to 2022). It resulted in 45 articles that were found in the following databases: Google Scholar, Pubmed, RECAAP, and Scielo using the following keywords: “elderly,” “intervention,” “depression,” “grief,” and “suicide”. The goal is to make a literature review from the last 20 years of research on the main theme of depression in elderly people; what does the literature show about this issue?

2. Factors in Depression

2.1. Depression: Risk Factors, Prevalence, Age Groups

It should be emphasized that to have a diagnosis of depression, the individual must present a depressive mood (feelings of sadness, irritability, or emptiness) along with a loss of interest and pleasure in activities for at least two weeks [5,6]. There are, therefore, according to Associação Americana de Psiquiatria [10], several classifications referring to different types of depression. They are (i) disruptive mood dysregulation disorder, which is present in children under the age of 12 and is connoted with severe chronic irritability with frequent angry outbursts in the face of frustration, in which symptoms last for 12 months or longer, and frequent angry outbursts (i.e., three or more times per week) must manifest in multiple settings (e.g., home and school) and affect development. (ii) Major depressive disorder has five or more symptoms present; however, the presence of depressed mood and/or loss of interest and pleasure is present for at least two weeks, in almost all activities, plus four of the following problems: tiredness or lack of energy, changes in appetite and weight, feelings of guilt and worthlessness, sleep problems and concentration problems, suicidal thoughts, and restlessness or sluggishness. (iii) Dysthymia is applicable when a depressed mood is present most days for at least two years and is a more chronic form of depression. (iv) Premenstrual dysphoric disorder is characterized by mood swings, irritability, anxiety symptoms, and dysphoria beginning during the premenstrual phase, with symptoms subsiding at the onset of menstruation or a few days after. The diagnosis and symptoms must occur in the last menstrual cycles in the last year, generating an impact on the individual’s functioning. (v) Lastly, substance/medication-induced depressive disorder and (vi) depressive disorder due to another medical condition [5,10,11].

There are different factors that trigger the possibility of a diagnosis of depression. Life events such as childhood problems, the death of loved ones, divorce, abuse, abandonment, illness, and excessive use of drugs and alcohol are unfavorable events that increase the risk. Family history of depression and gender are two other major risk factors. In addition, environmental factors such as dysfunctional family dynamics and negative social relationships or low social support are also referenced in the literature. Less favorable socioeconomic contexts that lead to poverty and unemployment are also aspects to be considered due to the exposure to stress, making individuals more vulnerable and prone to trigger the pathology [2,3,5,7].

Depression affects people of different genders, races, ages, and social statuses. However, the literature highlights that women are the most vulnerable and, consequently, the most affected [6,12]. There is a consensus in the literature that women are indeed the most concerned gender, as evidenced by [4], in which the percentage of women with depression is 5.1% and men 3.6%. According to Silva [6], women have more social responsibilities and are subject to several hormonal changes during life, causing drastic mood changes. In female children, vulnerability is related to the beginning of the menstrual cycle. In adulthood, there are issues such as pregnancy, postpartum depression, and menopause. In other words, depression in women is also explained by reasons related to the reproductive cycle and its characteristic hormonal oscillations [12].

2.2. Depression vs. Grief and Sadness

Depression is different from grief and a feeling/state of sadness. It is natural to feel sadness after certain events, such as losing a loved one, divorce, or job loss. However, this sadness is a reaction to an event and diminishes as time passes, and individuals adapt to the changes that have occurred with the situation experienced. This description does not
match the definition of depression because sadness does not last and affects the individual, interfering in various areas of his life, such as the relational sphere, the workplace, or his income, leaving him in intense and dysfunctional distress. In the grieving process, self-esteem does not change. Grief is gradual and is associated with positive memories, pleasure in daily activities, and maintaining relationships. These aspects mentioned above also diverge from a diagnosis of depression, where self-esteem and satisfaction cease to exist, suffering is extreme, and negative thoughts and feelings thrive. Nevertheless, a grieving process can give rise to a depressive state, but grief is distinct from depression [6,8,13].

2.3. Suicide and Depression

Given how depression affects the subject, suicide is a concomitant aspect and results from individuals’ emotional suffering, and suicide attempts are the signs of this suffering. According to Brito et al. [1] (p. 2), “depression is associated with premature deaths by suicide”. The fact that depression is a clinical pathology with a significant impact on the life of an individual and is one of the main causes of disability in the world and leads to situations of destructive behaviors and, at an extreme level, suicide in the face of recurrent suffering [5,13].

Suicide attempts are rare in childhood. However, they are already becoming a common problem in school-aged children and adolescents, and the cases increase with age [5,7]. In adults over 65, suicide is also increasing. It highlights the psychological pain considered unbearable and the indifference others feel toward them as unsolvable, leading them to the only solution they see, suicide [14]. In terms of gender, and contrasting with the prevalence of depression, suicide is more evident in male individuals than in females [15].

2.4. Developmental Transitions: A Risk Factor

Developmental transitions are sensitive periods in the trajectory of mental disorders requiring increased attention [16,17]. Over the past decades, mental health in these populations has undergone advances, with better identification and understanding of these disorders, mainly because depression was only recognized as a pathology in the 1970s [15–17]. According to BAHLS 2002 [7], depression in children and adolescents was recognized in 1975 as being a non-existent situation, with few scientific studies until then. Despite the triviality placed on the issue, it has been deconstructed, and according to [7], the presence of depression in children is “something common and serious” (p. 129). According to [7], “sad and upset” children (p. 128) are adjectives used to describe children with depression, and there is a high level of comorbidity of depression with other disorders in this age group, such as anxiety or attention deficit disorder.

2.4.1. Depression in Children and Adolescents

Regarding depression in children and adolescents, symptoms are like those of adults, with some differences [16]. Children manifest sadness, irritability, unexplained pain, weight loss, fatigue, school impoverishment, feelings of worthlessness and guilt, decreased interests, and thoughts of death (even in children under seven who do not understand it). In adolescents, depression manifests itself through sadness, irritability, worthlessness, misunderstanding, guilt and anger, poor school performance, alcohol and drug use, increased appetite and consequent weight gain, self-harm, and social isolation [7,8]. Moreover, searching for new situations and emotions, hyperactivity, or the inability to be alone are also masked behaviors that can express depression [18]. Although severe, and not neglecting the severity of the situation in children, it is during adolescence that more cases of depression are reported, with an estimated 4–8% of adolescents flagged and about 2% of children [15]. The risk of suicide is also higher when depression occurs in adolescents. Several challenging situations can explain these numbers that young people face during adolescence: physical changes (leading to low self-esteem) and psychosocial changes (identity construction) that generate ambivalent feelings, making depressive symptoms familiar in this period. Adolescents pursue social support and peer acceptance; depression might
arise when they fail. Entrance into university is also challenging due to changes, such as leaving the parents’ home to live alone and far away and leaving peers from secondary school. The adolescent may be exposed to stress and anxiety that may lead to depression, depending on the activities requested and the need for integration into a new context. At this stage, comorbidity is evident with eating disorders and substance abuse [7,19].

2.4.2. Elderly People: Population over 65 and Depression

According to Pacheco [14], the population over 65 is defined as elderly. Ref. [20] states there is a distinction between three phases: the young elderly, between 65 and 74 years old, characterized as lively and more active; the elderly, between 75 and 84 years old; and the very elderly, over 85 years old, who are more prone to illness and are more fragile. In this range of ages, this population is characterized by various changes and challenges inherent in advancing age and the consequent wear and tear. At this phase, there are changes at various psychological, physiological (e.g., body composition, bone density, muscle performance), and social levels.

Elder age is characterized by loss of professional status, changes in family and social relationship roles, increased loneliness, loss of significant others, and the need to spend more time with others. Therefore, individuals are faced with a panoply of situations they must deal with, possibly affecting their quality of life and making them experience stressful situations [14,21]. Given an aging population and the statistics that there is a trend toward increasing elderly individuals, the concern with geriatric depression has been highlighted due to the occurrences mentioned above, highlighting the need to promote quality of life and well-being in this age group.

When talking about this population, the disorder in focus is depression, and it should be, as in other populations, the target of rapid detection and adequate treatment [22]. According to Faisca et al. [23], the prevalence of this pathology in the elderly is 11.88%, which raises a social concern. Particularly in this age group, depression manifests itself. Differently, somatic symptoms are reported more often than affective ones, which are more common in younger populations. In this population, depression manifests itself in a depressed mood or other symptoms, such as somatic manifestations, psychomotor agitation, irritability, lack of motivation, social isolation, avolition, apathy, and cognitive changes. Men tend to manifest more agitation and women more appetite disturbances [22] (p. 15). Additionally, lack of concentration, psychomotor retardation, changes in memory and sleep (insomnia or excessive sleepiness), and changes in weight and appetite appear in this disorder, complementing the particularity that the somatic symptoms are more visible [14].

The fact that this age group is more prone to specific problems raises multiple reasons that trigger this pathology. The presence of other medical conditions, such as dementia, makes the patient experience memory, vision and hearing difficulties, sleep disturbances, and insomnia, which may account for depression. Similarly, the loss of functionality and dependency on others are conditions that cause a consequent decrease in social interactions and a reduction in leisure activities, which are critical factors in the origin of depression. Certain medications, such as corticoids, can also cause depression. Social and economic factors, lack of support, exposure to stressful events, low pensions, and high health expenses are some of the main factors. Marital status, such as widowhood, common at this age, explains the onset of this pathology, and it affects more men than women. Hospitalization or institutionalization are also risk factors for depression because they are associated with loss of independence, family conflicts and possible abandonment of care, loss of control of one’s life, and rigid routines.

2.4.3. Consequences of Geriatric Depression

Overall, the consequences of geriatric depression are essentially suffering at an emotional and physical level, decreased quality of life, increased risk of death, and the possibility of worsening existing illnesses or causing the onset of others [22,24]. It is essential
to consider that recognizing this clinical picture is problematic because it manifests itself atypically and is inherently associated with aging diseases. Symptoms such as motor slowing, greater inactivity, and decreased social contact are expected at this age and can be mistaken for depression. Furthermore, stating that “depression is not a normal event in the aging process, although it is often considered an integral part of it” corroborates the previous statements [14] (p. 21).

Given these changes and focusing on the atypical pandemic of 2020, it should be noted that the elderly were the most vulnerable population in this process, being the age group with the highest mortality rate. The necessary isolation and inability to socialize affected them mentally, increasing the feeling of loneliness and emotional vulnerability, which are characteristics of depression [14].

2.4.4. Prevention, Treatment, and Promotion of Healthy Lifestyles

Multiple actions decrease the risk factors for depression, and many of these are limited to the practice of self-care. The promotion of healthy lifestyles (healthy diet, restful sleep, physical exercise), the decreased consumption of alcohol and drugs, and the treatment of other conditions such as cancer, heart disease, and diabetes help in this prevention [24–26].

More knowledge about depression (e.g., what treatments are available, the effectiveness of strategies) and a decrease in stigma make it possible to detect the illness more quickly and benefit individuals. Patient–doctor work and patient motivation in the treatment plan prevent the illness’s likelihood of reappearance. The development and maintenance of meaningful relationships and the concern to spend time in leisure activities are essential to maintain our health and well-being [8, 12, 13, 18, 20, 27].

The urgency of prevention is immense, given the statistical numbers. According to the WHO, depression is the most prevalent pathology in the European Union, with Portugal in fifth position, with 8% of Portuguese people diagnosed with depression [13]. The early identification of depression is crucial for better treatment possibilities. The fact that we diagnose the pathology late makes it difficult to control the condition and reverse already chronic states. The fact that the condition is not controlled leads to deficits in other areas, such as weakening the immune system, making it more vulnerable to other problems such as diabetes, infections, and cardiovascular problems. In the same way, the non-recognition of this clinical condition may generate conflicts. For example, at work, certain unpleasant situations might come from the irritability characteristic of the pathology.

Treatment helps with these issues by reducing symptoms and recurrences of episodes. According to the OPP [8], psychological intervention (e.g., psychotherapy) is the first line of treatment. Psychologists are there to work to acquire skills to improve the subject’s thoughts, feelings, and behaviors. It can also be performed with pharmacological treatment, such as antidepressants. Both approaches can be used separately or together [26–35]. Medication is a frequent resource and can be beneficial in many cases. However, it is only recommended for individuals with moderate and severe depression. In the over-65 population, antidepressants are as effective as they are for the young [8, 36].

It is essential to understand that the sooner the patient starts treatment, the more efficient it will be. It is evidenced in the literature that females seek more adherence to drug treatment than males [37]. In contrast, the male gender is more reluctant and seeks treatment options less than the female gender. According to the literature, this results from cultural stereotypes, in which a man suffering from depression is interpreted as a sign of “weakness and social diminishment” [37] (p. 22). This concern is also visible in the young population, leading young men to postpone or avoid treatment altogether. These concerns are also associated with a lack of knowledge about the availability of help, the severity of symptoms, the perceived triviality of signs at a young age, and concerns about anonymity and confidentiality [38].

In adults over 65 years old, depression is an under-treated condition due to fears of side effects from medication and complex health conditions. It should be added that this pathology is mainly treated in primary healthcare. Here, the treatment proves effective
due to the collaborative and multidisciplinary care model, in which a psychologist assists
the physician in optimizing and monitoring the pharmacological and psychotherapeutic
treatment to treat geriatric depression efficiently. However, in this age group, there is a
worse adherence and response to treatment [22,38].

2.5. Prevention of Mental Health in a Sustainable Way

Climate change consequences (such as floods and droughts) and their interconnec-
tion to mental health issues have been referenced in several studies [39,40]. A “climate
emergency is also a health emergency,” which places healthcare professionals and organi-
izations as responsible agents [39] (p. 1). In [39], the emphasis is on finding a more
sustainable method of preventing depression. This sustainable method is based on four
principles: (i) adopt preventive intervention and increase social capital; (ii) empower in-
dividuals to guide their mental health; (iii) eliminate unnecessary activities; and (iv) use
low-carbon options.

Practical Suggestions

(i) More specifically, and starting with the principle of prevention, in cases of depression,
the fact that we are preventing protects resources that save money. Here, activi-
ties such as befriending services are a low-cost and effective intervention strategy
for ameliorating depression. In this form of prevention, befriending increases the
subjects’ perceived social support, acquires skills to cope with stress, and decreases
depressive symptoms.

(ii) In the second principle, the adoption of self-monitoring is referenced, where it is the
subject’s responsibility to manage symptoms, i.e., the subject may track their symp-
toms using technology. “Green and blue space” is another prevention activity that
hospitals could implement. Here, access to green spaces, the practice of horticulture
and insertion in walking groups, and providing contact with nature benefit patients
with mental health problems.

(iii) Point three seeks to understand more deeply non-adherence to treatment, side effects,
and what beliefs or other barriers are examples of practices that reduce wasted strategies.

(iv) Finally, in point four, cycling, car sharing, and transportation purchasing options
should be implemented by organizations, allowing employees to make their journeys
to decrease carbon dioxide emissions and allow more social contact.

These ideas aim to mitigate climate change because studies that address, for example,
the relationship between temperatures and mental disorders show that when temperatures
rise, lethargy, lack of sleep, and irritability are symptoms that worsen and can trigger
depression [40]. Furthermore, individuals with pathologies and taking medication, such
as antidepressants, are more affected because the drugs may increase sweating and heat
production, worsening their symptoms [40].

The urgency of practicing sustainable preventive activities is intended to cope with
and slow down climate change, which is beneficial for the world’s population and also
contributes to improving the mental state of people in addition to conserving valuable
resources for the next generations [39,41].

2.6. Using Humor to Promote Health

Humor has proven to be a coping mechanism for psychological problems. Since the
1970s, humor has been related to health, and laughter and humor are considered forms of
therapy with therapeutic power [42]. In this line of thought, “laughter relaxes the body
and mind, strengthens organic defenses, improves circulation and blood pressure, and releases
‘endorphins,’ which promotes a sense of general well-being” [43] (p. 266).

The use of humor and laughter stimulates the patient, which causes them to change
their thoughts and be happier despite feeling down or having negative thoughts. Having
said this, using laughter and humor, pain, stress, and other illnesses are reduced or allevi-
ated. In people over 65 years of age, this practice has generated significant interest due to
the results of studies that state that the positive effects fall on happiness, the quality of life of people that are significantly affected, and the issue of vitality that is the central concern of this age group [42].

According to this entry, depression is the most frequent mental health problem globally. According to Guedes et al. [12] (p. 10), “Depression is not a disease of the contemporary world. It accompanies humanity throughout its history”. Hence, this area’s scarcity of programs and practices/actions is not understandable. Prevention strategies exist, but they are insufficient and inefficient in this fight due to the irrelevance given to mental health issues. A better articulation between organizations and better funding for fundamental causes would make the difference in jointly living in a world where mental health is an important topic and facilitate timely help and the creation of solid solutions.

Likewise, the stigma that subjects diagnosed with depression face is also an inexplicable barrier to advance. The fact that there is social discrimination makes more people unwilling to be helped, which consequently harms individual and collective health. The reduced help-seeking is a consequence of stigma and lack of knowledge, which could be solved. “By increasing mental health literacy about depression, it is hoped to increase help-seeking behaviors, facilitate first aid given to others and reduce the delay between the first signs and symptoms and seeking help from a professional” [38] (p. 8). In this way, it is unthinkable to be a judgmental society unable to accept and integrate subjects with problems that need help or an ignorant society that does not actively seek explanations and solutions.

Everyone should know themselves and try to understand their feelings, what situations make them nervous, anxious, and depressed, and what they can do to attenuate those feelings, acting promptly and effectively. This self-knowledge seems trivial, but it is learned over time, and it also benefits individuals to be aware of what is going on, which makes them more aware of their capacities and weaknesses and be able to detect in a better and more timely way symptoms that can be dangerous and the target of possible disturbances. In other words, the responsibility is not only in the hands of the organizations and what they can do, it also falls on each one of us to recognize that we can avoid certain situations if we are more vigilant and informed.

Moreover, the creation of good relationships and the insertion of individuals in a consistent support network strengthens them and proves helpful in extreme situations, such as in cases of suicide, which are so frequent when a depression diagnosis is made. This “comorbidity” is frightening since many suicide cases come from people diagnosed with depression. This connection is explained by the exhaustion felt by the subjects of the impossibility of continuing to feel what they feel. At this point, the work of a health professional facing extreme situations is critical.

Sustainable practices and humor are beneficial alternatives for treating and preventing depression. These activities do not require monetary investment and can reach all individuals, regardless of their social class. Nevertheless, more research should be performed to support this new path of psychological intervention.

According to the WHO [5], characteristics such as loneliness, a sad mood, and socioemotional and cognitive changes describe depression, which is classified into three levels: mild, moderate, and severe. This disorder is accompanied by negative consequences, which interfere with its carriers’ quality of life since they become sad, tired, and feel guilty about the circumstances around them. The literature reveals frequent thoughts about death, lack of concentration, and loss of interest in previously pleasurable activities [15]. According to the analysis, all authors agreed that women are at risk due to their greater emotional fragility; however, men are the most likely to commit suicide, which is one of the most severe consequences of depression [15]. Several causes trigger these mental disorders, highlighting family and environmental events, in which the population over 65 years old suffers from widowhood, loneliness, hospitalization, and institutionalization [5,13]. Further, the earlier individuals follow through with treatment, the better the prognosis [41].
3. Conclusions

In conclusion, and based on all the above arguments, it is crucial to invest in innovative interventional techniques to combat depression. How can we create a “new world,” one that is more healthy and more equitable? How can we collectively create conditions for each human being to manifest their self, contributing to a better world? It will undoubtedly allow a sense of belonging and reduce the levels of depression.

Ultimately, human communication is changing because of emerging technologies. To what extent does scientific and technological progress contribute to mitigating or deepening socioeconomic inequalities? This is a crucial question for science and technology today.

Health and technology have increasingly gone hand in hand, providing more and more advances in health. The most recent advances have provided more agile service, accurate diagnoses, and more time to deliver a humanized service. Technology applied to mental health should prioritize improvements in the health sector and contribute to a more dignified, just, stable, and sustainable society.

Living longer and healthier are the challenges to which science and technology should contribute. Telepsychology could be a natural evolution of mental healthcare in the digital world. The concept of Health 4.0 is to use investments in technology in the health area, seeking to prevent illnesses and guarantee patients’ physical and mental well-being. This new way of working technology into medicine and psychology brought a set of resources, each with its benefits.

Humanized care is a deeper relationship between the therapist and the patient. Applying humanized care is challenging, but technology can facilitate the process. Many therapists are using blogs and websites to share information and educate their patients. Bringing correct information to people amid so much flawed data on the internet is a great way to help.

It is necessary to see Health 4.0 beyond technical issues to save lives. After all, it promotes agility in consultations and satisfaction in terms of care. It is increasingly committed to discovering quickly what affects society and the fastest ways to treat these diseases. Internet therapy may address a different target audience than face-to-face therapy. Optimal human functioning can also be promoted by developing knowledge and skills, enhancing physical health and fitness, and increasing available opportunities and resources. Motivation plays a leadership role in directing, organizing, and regulating goal-directed activity. It is often the most potent and efficient pathway for developing human potential. Indeed, the highest levels of achievement and creativity are most closely associated with motivational qualities such as passionate interest, a sense of personal mission or life purpose, high energy and persistence, and a strong and resilient sense of self-confidence and courage. In clinical cases of depression, having personal goals can provide self-direction. Core personal goals are the most substantial sources of direction. Within a restorative therapeutic context, with a well-established alliance bond, high levels of depression in people worldwide could be diminished. That is, undoubtedly, one of the main goals of professionals working with mental health issues, particularly psychologists and psychotherapists.

Author Contributions: Conceptualization, L.S.; methodology, A.L.F.; software, T.C.P.; validation, T.C.P., L.S. and A.L.F.; formal analysis, T.C.P.; investigation, T.C.P.; data curation, T.C.P.; writing—original draft preparation, Teresa Paiva.; writing—review and editing, L.S. and A.L.F.; visualization, T.C.P., L.S. and A.L.F.; supervision, L.S. and A.L.F. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.
References


7. Colavite, J.; Silva, F.F.; Garbi, J.P.; Silva, M.O.; Ribeiro, R.A.; Cardoso, H.F. Depressão: Crianças também sofrem com essa doença. Psicólogo Inf. 2013, 17, 123–131. [CrossRef]


9. Marese, A.C.M.; Ficagna, E.J.; Parizotto, R.A.; Linartevechi, V.F. Principais mecanismos que correlacionam a microbiota intestinal com a patogênese da depressão. Fag J. Health (FJH) 2019, 1, 232–239. [CrossRef]


**Disclaimer/Publisher’s Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.