

**RESEARCH
BRIEF
#8**

FORTE:

Swedish Research Council for
Health, Working Life and Welfare

ANXIETY AND DEPRESSION IN OLDER ADULTS

150 000 elderly people suffer from depression in Sweden → Approximately half of older adults with depression in population surveys have residual problems several years later → Knowledge about depression and anxiety in older adults is limited, even though these conditions can lead to serious negative consequences → More research is needed on prevention and treatment of anxiety and depression



SUMMARY

The number of older people is increasing across the world. Depression and anxiety is common in this age group, as among young people. Knowledge about depression and anxiety among older adults is limited, even though these conditions can lead to serious negative consequences such as reduced quality of life, increased risk of physical illness (such as stroke), increased use of health services and social services and increased risk of suicide. Research indicates that depression often manifests itself differently in older adults compared to younger people. As with other common diseases, the occurrence of depression in older adults is linked to many different psychological, social, physical and biological factors. Knowledge about the risk factors for anxiety in older adults is more limited. Depression and anxiety is more common in older women than in older men. Depression appears to have the highest prevalence in the 10 years prior to retirement, and the lowest prevalence in the first 10 years after retiring. The prevalence of anxiety disorders appears to decrease with age. However, the pattern varies between the different anxiety disorders. So far it is not clear whether depression increases the risk of dementia, or whether it is an early sign of the disease. Psychosocial and pharmacological treatment models have mainly been studied in younger age groups with the results then applied to the older population. Therefore, there is a need for preventative and treatment studies specific to older adults. However, improving knowledge of depression in the general population so that more people with depression can receive adequate treatment is even more important.

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Download this publication, including references, from: www.forte.se/en/publication/rb-depression

Forskning i korthet (Research Brief)

ISSN 2001-4287

No 8/2016

Print: Tryckeri AB Orion, 2017

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Published by Forte, Box 894, 101 37 Stockholm, Sweden

1. Introduction

Sweden has an ageing population. Soon every fourth person in Sweden will be over 65. Depression and anxiety disorders are common in all age groups. However, these conditions have received significantly less attention than dementia within research in the older population (1, 2). Psychiatry research has also neglected the older population. Older people with mental health problems are also a neglected group in the care system, and care varies considerably between different parts of the country. This is despite the fact that depression is more common than dementia among older adults and may lead to many serious consequences.

2. Definitions

The most common way to diagnose mental illnesses in scientific studies is according to the American Psychiatric Association's Diagnostic and Statistical Manual for Mental Disorders, DSM. According to the latest version DSM-5 (3), a diagnosis of severe depression can be given to people presenting symptoms in five of the following nine groups:

- a) feeling depressed, low or down
- b) loss of interest or pleasure in one's usual activities
- c) loss of appetite
- d) sleep problems
- e) psychomotor agitation (bodily movements triggered by anxieties) or inhibition (decreased bodily movements and blank facial expressions)
- f) fatigue or loss of energy
- g) cognitive problems such as trouble concentrating or indecision
- h) feelings of uselessness or guilt
- i) suicidal thoughts

One of the symptoms must be feelings of depression or loss of interest. This classification is similar to that of the previous versions DSM-III, DSM-III-R and DSM-IV. Mild depression was classified in the DSM-IV (4) having 2-4 symptoms. Other terms for minor depressive disorder include *dysthymia* and *subclinical depression*. Two manifestations of depression are considered common among older adults: *atypical depression* (which manifests itself with seemingly opposite depressive symptoms, such as increased sleep, increased appetite and irritability) and *masked depression* (where physical symptoms or non-depressive psychiatric symptoms dominate). Another system of classification is the International Classification of Diseases (ICD), published by WHO. Although this system is used for registration in health care it is not as often used in scientific studies.

Anxiety disorder is an umbrella term for diseases such as generalised anxiety disorder (GAD), agoraphobia, panic disorder, obsessive-compulsive disorder (OCD), social phobia and specific phobia.

Generalised anxiety disorder (GAD) is associated with a constant anxiety and excessive fear and anxiety about various everyday activities (anticipatory anxiety).

Panic disorder is associated with panic attacks (distinct periods of intense fear, terror or significant discomfort).

Specific phobia is a distinct fear of certain things or situations (such as spiders, snakes, thunderstorms, high altitudes, riding the elevator or flying).

Social phobia is characterised by strong fear of social situations involving exposure to unfamiliar people or to being critically reviewed by others.

Obsessive-compulsive disorder (OCD) is associated with obsessions or compulsions. Obsessions are recurrent and persistent thoughts, impulses or fantasies that are experienced as intrusive and senseless (for example brooding over whether the stove is off). Compulsions are repetitive acts that the person feels compelled to perform in order to avoid anxiety or to prevent other unpleasant things from happening. In the DSM-5 (3), OCD has been removed from anxiety disorders and has become a category of its own.

3. Prevalence

Many risk factors for mental illness increase with age, such as the loss of family and friends, a deteriorating social network, impaired sensory function, reduced functional ability and physical ill-health (1, 5, 6). Various organic factors, such as brain atrophy (loss or shrinkage of neurons), vascular disease of the brain and underactivity of the serotonin system also increase the risk (7, 8). These negative factors seem to explain much of the increased prevalence of depression in older adults observed in various studies (9, 10). Old age, however, also has positive dimensions, such as increased leisure time and reduced stress. Several studies show that the incidence of depression is highest in the years before retirement (50-65 years), and then decreases (5, 11-19). The lowest incidence appears to be between 65 and 75 years, after which it increases again (9, 10, 18, 20-23). Milder depressive symptoms increase with age (17, 24, 25). This may be because older adults with depression often exhibit fewer symptoms than younger people (26), meaning they do not meet the criteria for clinical diagnosis. New cases of depression have both been reported to increase (27) or be unaffected by age (28).

The prevalence of anxiety reported in the general population decreases with age (16, 18, 19, 29-31). This pattern varies between anxiety disorders (31). Panic disorder is considered to be very rare among older adults (16, 21, 32). The research regarding generalised anxiety disorder (GAD) is contradictory. Some studies report that GAD increases with age or that prevalence is unchanged (29, 33, 34). Others argue that the highest prevalence of GAD occurs in the 40s (35, 36), and that it decreases after this time (35, 37). Obsessive-compulsive disorder (OCD) seems to be less common among older adults than younger people (38). OCD usually

begins when people are in their 20s, but there is possibly a second peak in the onset of OCD later in life (39, 40). The prevalence of specific phobias (41-44) and phobic fears (45) reported in the general population decreases with age, with a few exceptions (46, 47). New cases are rare in old age (48), and more than 80 per cent of 70 year olds reported that they had their first symptoms before 20 years of age (49). Social phobia seems to be less common among older adults than in younger groups (42, 50-53).

The prevalence of anxiety and depression is high among older adults, both in Sweden and internationally (1, 11, 12, 32, 54). Few studies have examined the prevalence of depression and anxiety in people over 90 years. A Swedish study of 95-year-olds reported that 17 per cent had depression and 9 per cent had anxiety (20).

Several epidemiological studies have looked at depression in older adults. Cross-sectional studies usually show a prevalence of 5-15 per cent (5, 9, 13, 54-58) for all types of depression and 1-5 per cent for severe depression (14, 32, 54). Depression is at least as common as dementia after the age of 65, and around 150 000 people in this age group suffer from it. The presence of depressive symptoms is more common than the clinical diagnosis of different types of depression. The prevalence of depression among older adults appears to be higher in southern Europe than in northern Europe (59).

Anxiety is an underestimated condition among older adults (11, 12, 32). Prevalence is usually reported as between 6 and 12 per cent for people aged over 65 (12, 32, 54). In a Swedish study, prevalence was 10.5 per cent among 85-year olds (56) and 4 per cent among 95-year olds (20).

The prevalence of GAD varies significantly between different studies and has been reported as being between 1-10 per cent (29, 32, 40, 46, 54, 60). Prevalence is reported as 3 per cent among 75-year olds (61), 6 per cent among 85-year olds (56), and 2 per cent among 95-year olds (20).

Few studies have examined the prevalence of compulsive disorders in older adults. Among people aged over 65 the prevalence is reported as 0.2-1.5 per cent (32, 38, 40, 62-64). The prevalence was 2.9 per cent among 70 year olds (64), 3.2 per cent among 85-year olds (56) and 0.3 per cent among 95-year olds (20) in Gothenburg. Milder compulsive symptoms are much more common (64).

Specific phobias are the most common anxiety disorder in all age groups and prevalence among people over 65 years varies across studies from 2 per cent to 12 per cent (21, 30, 32, 40, 41, 46, 49, 54).

If DSM-IV criteria are used, the prevalence of social phobia is 1.3 per cent among people over 55 years (50) and 1.8 per cent among people over 65 (65). In DSM-5, the requirement that the patient experiences fear as excessive or unwarranted has been removed, yielding a higher prevalence. In a Swedish study (66), 3.5 per cent of participants had a social phobia according to DSM-5.

The risk of disease is studied through new cases (incidence). Incidence studies of mental illness in older

adults are rare. Results from various studies provide a wide variation of the incidence of depression and figures vary between 2 and 140 per 1,000 people per year (27, 28, 67-70). This may be due to different definitions of depression, how often participants are examined and the information methods used to detect episodes of depression between surveys. Registry studies significantly underestimate the prevalence of depression, for example.

3.1 Does depression present differently in older adults?

In general, depression among older adults is often similar to depression among younger people. However, it is often stated that clinically, depression can appear differently in older and younger people and is therefore more difficult to detect both for the older individual and those around them. Symptoms often become more diffuse in older patients. Often a single symptom or atypical symptoms, such as aggression and irritability, can be dominant. Physical symptoms are common as pain thresholds and pain tolerance can decrease with depression (225) and older adults often have a variety of ailments which then become more pronounced. The type of pain stimuli can be important here (226). Depression in old age is often characterised by hopelessness, anxiety or worry, but it is also common for older adults to seek care for their physical symptoms rather than depression. Sleep problems are also commonly linked to depression in older adults. Older adults with depression often become inactive and apathetic, easily irritated and dissatisfied. The process is often drawn-out and symptoms are less obvious. For example, anger and withdrawal in an older man can be a sign of depression. An acquaintance who does not show up to a volunteer's meeting may also have depression. Depression-related memory loss can be misinterpreted as an early sign of dementia, creating an additional source of worry for both the older individual and their family.

4. Comorbidity

Few studies have examined the prevalence of comorbidity (i.e. several mental illnesses occurring at the same time in the same person) in older adults (1). Comorbidity is particularly high between depression and anxiety and between the different anxiety disorders in the general population. This is evident among older adults as well (11, 12, 32, 43, 48, 49, 66, 71-76), with a comorbidity of 50-90%. This comorbidity was already noted during the 1960's (77), when it was reported that most mood disorders among older adults presented as a combination of both depression and anxiety symptoms. 91 per cent of older adults with GAD also have depression (21), and 95 per cent of older adults with depression also have anxiety symptoms (70). The high comorbidity between GAD and depression (78) has caused a discussion on whether GAD should be included among mood disorders

(61). High comorbidity is also observed among anxiety disorders, such as social phobia, specific phobias, panic disorders, OCD and GAD (66, 71, 72). Diagnostic boundaries are therefore often difficult to determine. It is important to diagnose comorbidity as it can lead to increased suffering and decreased functional ability (66, 71).

The correlation between depression, dementia and cognitive decline is much disputed (1). Cognitive symptoms are one of the key symptoms of depression in DSM-5 (3). Therefore, it is not surprising that many studies show that people with depression perform poorly on cognitive tests (17, 22, 79-82). Cognitive decline is often mild (83, 84), is seen in skills linked to the frontal lobe and areas of the cerebral cortex (80-84), and is usually too mild to fulfil the criteria for dementia. Cognitive symptoms of depression are probably more pronounced in older adults, and have been reported to be more common in people who had their first episode of depression later in life compared to those with an earlier onset (85). Anxiety disorders in older adults (76), including social phobia (66), GAD (86) and OCD (64) have also been linked to poorer performance on cognitive tests.

In many studies, depression is reported to be a precursor or risk factor for dementia (87-89). Prospective population studies give varied results; several studies reported that depression increases the risk of dementia (80, 90-92), while others did not find such a correlation (69, 93-96). A meta-analysis concluded that depression increases the risk of later development of dementia (89). This meta-analysis included, however, a mix of population-based studies and studies from memory clinics which makes it difficult to evaluate the results. It is not clear whether depression increases the risk of dementia, or whether it is an early sign of the disease. A new study found that depression increased the risk of dementia within four years, but not within 10 years (97). The researchers therefore concluded that depression was an early sign of dementia, not a cause of dementia. Fewer studies have investigated whether anxiety and anxiety disorders increase the risk of dementia. One study (98) found a correlation with anxiety, while another did not find the same correlation (99).

5. Risk factors

Most studies on risk factors have looked at depression, while fewer have studied anxiety disorders (1). Like all common diseases, depression in old age has several different causes (1, 5, 100, 101), each of which only contributes a small part. Often it is difficult to assess what is a risk and what is a consequence of the disease. Often the correlation can go in both directions.

Some of the most robust findings in psychiatric epidemiology are that incidence figures for depression, GAD and specific phobias are higher among women than men, irrespective of where the studies have been carried out in the world. The difference between men and women is

highest in middle age and then decreases with age. Most studies of older adults, however, do still report a higher prevalence among women than men. Among the explanatory models are various biological and social hypotheses. Another explanation is that men are less likely than women to report depression and anxiety symptoms. Women seek treatment for depression and anxiety problems to a greater extent than men, and psychotropic medications are more often prescribed to women. Few studies have investigated the importance of gender roles. Some researchers believe that depression manifests itself differently in men and women and that there should be different criteria for studying depression in men. Men are more likely to show symptoms such as irritability and aggression and heavy alcohol consumption can be a sign of depression in men (102). Suicide is more common among men than women in Sweden, as in most western countries, and this is especially true for older adults. For the age group 85+, the suicide rate for men was 43/100 000 in 2015, compared to 9/100 000 for women (103). The large gender difference may seem somewhat paradoxical given that depression is more common in women. Studies on gender differences with a focus on older adults are lacking for both depression and anxiety, and we know very little about the importance of gender in treatment with the various types of interventions for older adults with mental illness.

Other factors that are frequently reported as risk factors for depression in older adults are:

- negative life events, such as the loss of a close relative (9, 104, 105),
- physical ill-health (9, 100, 106-109),
- impaired functional ability (9, 100, 106, 109-111),
- institutionalisation (15, 112, 113),
- side effects of medication (114),
- loneliness, reduced social networks and support (9, 100, 115-117),
- organic brain factors (8), such as brain atrophy (loss or shrinkage of neurons) and cerebrovascular disease (vascular disease of the brain) (118),
- mental illness earlier in life (9, 100, 119),
- depression in relatives (9),
- lower level of education (9, 23),
- neurotic personality (9, 120, 121),
- smoking (115),
- high alcohol consumption (122), and
- low birth weight (123).

In terms of physical activity, the results are contradictory (124).

Risk factors for anxiety disorders in older adults are:

- physical illness (11, 40),
- unmarried (11, 40),
- lower level of education (11, 40),
- negative life events (41, 125),
- impaired functional ability (126), and
- neurotic personality (76).

Risk factors for anxiety disorders in older adults are sim-

ilar to those for depression (127). Some researchers consider that the risk factors for depression and anxiety disorders in older adults are different (125) and that the risk factors for depression are more biological than for anxiety disorders (127). One reason may be that few studies have examined the relationship between biological factors and anxiety disorders in older adults.

The presence of structural brain changes increases with age (128) and has been linked to increased risk of mental illness in several studies. Depression in older adults, especially severe depression, has been linked to changes in specific parts of the brain, such as the caudate nucleus and the putamen, and atrophy in the frontal, temporal and parietal lobes (129–140). Most studies are clinical and have used cross-sectional analyses. A longitudinal population study reported a correlation between atrophy in the temporal lobe on computer tomography (CT) and development of severe depression during a 5-year follow-up (139). Additionally, ApoE e4, a genetic factor linked to Alzheimer's disease, has been linked to new cases of depression in old age in a Swedish study (141). The results from other parts of the world, however, are not consistent.

The incidence of cerebrovascular disease (vascular disease of the brain), such as stroke (142) and ischemic white matter lesions (WML) (128) increases with age. The concept 'vascular depression' (143) refers to depression associated with such cerebrovascular diseases. One study showed that there was no difference in the manifestation of depression in depressed stroke patients and depressed patients without stroke (144). An earlier, small study reported that stroke patients with depression had less melancholic symptoms but more physical symptoms than depressed patients without stroke (145). More studies are needed to determine whether symptomatology differs in depression with and without stroke.

Depression is common after stroke (146–150). A systematic review (146, 147) found a depression prevalence of 33 per cent after the occurrence of a stroke. A Swedish study (150) found that stroke was related to a threefold increase risk of depression in women, and four-times increased risk in men. Recent studies have found that people with people with post-stroke depression respond well to antidepressant medication (151).

A common cerebrovascular disease is ischemic white matter lesions (WML) which are caused by a thickening of the vascular wall of the small blood vessels supplying the deep white matter of the brain, resulting in impaired blood flow to these parts (152). WML is a very common finding in studies using magnetic resonance imaging or CT in older adults (128, 153). The cause of WML is prolonged high blood pressure. Cross-sectional studies, usually conducted on patient populations, often show a relationship between WML and depression (134, 137, 138, 140, 155, 156). The results of longitudinal population studies are more contradictory (139, 140, 156–159). WML in older adults with depression can affect prognosis, such as relapse (160) and response to

antidepressant treatment (161). Very little is known about the relationship between WML and anxiety disorders in older adults.

6. Consequences and prognosis

Even milder forms of depression are linked to negative consequences (1), such as increased incidence of stroke, impaired functional ability, risk of suicide and increased mortality (67, 162–164). Among the consequences of depression are social isolation and loneliness (9, 165), impaired quality of life and functional ability (111, 165–167), increased use of health care and home care (70, 168), impaired cognitive ability (79, 81, 82), increased risk of physical illness (e.g. stroke) (162, 169), suicide (170) and increased mortality (69, 169, 171–175). Several longitudinal population studies show that depression increases the risk of stroke in people who have not had a stroke previously (162, 176, 177). Depression is also important to detect in older stroke patients because it is associated with poor prognosis (178–180). Stroke patients with depression have more cognitive problems (149), more days in hospital (181) and need more support than other stroke patients (182). Depression has also been linked to increased mortality due to:

- cardiovascular disease (183),
- heart attack (184, 185),
- prostate cancer (186),
- heart valve surgery (187), and
- diabetes (188).

A meta-analysis has found that depression also increases the risk of hip fractures and osteoporosis (189). Some studies have found that treatment of depression reduces mortality from physical illness (190–192) and also improves the level of functional ability. The consequences of different anxiety disorders in older adults are insufficiently explored.

Approximately half of older adults with depression in population surveys have residual depression several years later (193). The course of anxiety disorders is not as well studied. The prognosis of social and specific phobias seems to be slightly better than for depression; most people still showed symptoms at the follow-up, but only a minority still had such severe symptoms that they still had the same diagnosis (194–198). Results from studies on the correlation between anxiety and mortality/disease vary. One explanation may be that anxiety can mean many different things and different forms of anxiety have different effects on physical health. It is disputed whether anxiety leads to increased mortality (199–201). One study found that anxiety disorder in older adults was associated with increased mortality, increased risk of ischemic heart disease and stroke, as well as increased risk of suicide (202). Other studies have found correlations with reduced physical health (203). Social phobia is linked to impaired social and mental function

and reduced quality of life in older adults (66, 204), similar findings have been made for older adults with OCD (64).

7. Suicide

Sweden, like most western countries, has a high suicide rate among older adults. This is especially true for men. According to the Swedish National Board of Health and Welfare (Socialstyrelsen) there were 43 suicides per 100 000 men aged 85+ in 2015 (103). The corresponding figure for young men (15–24 years) was 11 per 100 000. Suicide attempts, however, are significantly less common in older adults compared with younger people. When attempts do occur, intent to die and determination are often stronger in older adults compared to younger (205). A suicide attempt of an older adult can therefore be a stronger indication of risk of death by suicide.

Most older adults who take their life do so due to mental health problems (170, 206), especially depression. Suicidal ideation (207, 208) and suicide attempts (209) are unusual in older adults without mental health problems. Studies of suicide attempts (206, 209–211) and completed suicide (170, 212) in old adults show that the association with depression is stronger compared to younger age groups. This is a strong argument for the identification and treatment of depression in older adults. It is of key importance for suicide prevention in this age group that depression treatment is followed up actively, including evaluation of treatment efficacy. Multimodal treatments may be justified. Even milder depression may increase the risk of suicide and suicide attempts among older adults. Heavy alcohol consumption is linked to a higher risk of suicide (213) and suicide attempts (214) in older adults in Sweden. Anxiety disorders are also linked to an increased risk of suicide in older adults (170), and older adults with anxiety symptoms often have suicidal thoughts, regardless of the degree of concurrent depression symptoms (215). Most studies argue against dementia as a risk factor for suicide in older adults. Milder forms of impaired cognitive ability may be significant (216), likely due to reduced ability to solve problems.

Comorbidity between mental and physical health is an important consideration in regards to suicidality in older adults. Increased risk of suicidal behaviour in older adults has been found in neurological disorders, cancer, pain disorders, chronic obstructive pulmonary disease, liver disease, joint disease/arthritis and urogenital diseases in men (217). Physical disability is another important factor (218). Research suggests that there may be gender (219) and age differences in the older group (220), but there is very little specific age and gender research on suicide among older adults. Social factors play a strong role (221), which becomes particularly apparent among the oldest age groups (218, 222). There is very little research in the area of suicide prevention for older adults (223). The limited literature available indicates successful prevention initiatives for

women but not for men (224).

8. Prevention

Depression and anxiety disorders are so common among older adults that it is considered a public health problem. Depression is the leading cause of mental illness in all age groups. One aspect of the problem is the lack of public health awareness about depression among older adults. It is likely that the majority of those suffering from depression are not aware of it, and only 10–20 per cent receive real treatment. There is an opportunity here for the public and non-profit sectors to emulate the successful campaigns undertaken for cancer, cardiovascular pulmonary disease and stroke. In the rare cases when an older adult seeks help for their depression, diagnosis and treatment usually occur within primary care. Only a small percentage of those with depression seek direct help for it. It is not unusual that they seek help for physical problems instead (227, 228).

There are a number of measures to prevent depression. One factor that is often mentioned is the importance of physical activity, which also has an effect on cardiovascular disease, wellbeing, fitness, quality of life and longevity. However, the correlation may exist because people with depression are less active. A recent longitudinal study reported that depression at baseline increased the risk of low physical activity at follow-up, while there was no correlation in the other direction (124). Results from treatment studies in older adults have been conflicting.

An improvement of the psychosocial situation can also be important, for example through meaningful employment such as voluntary work or getting involved in a new community when friends or family have passed away. A systematic review showed that psychosocial interventions (interventions which address a person's whole life situation) could reduce depressive symptoms in older adults, if the intervention lasted more than 3 months (229). A Swedish study has shown the importance of loneliness for the occurrence of depression (230). In a subsequent study, a wide range of social activities designed to reduce loneliness in older adults were conducted in a municipal district. At follow-up 1.5 years later, results were compared with another municipal district within the same northern county. Fewer new cases of depression were observed in the intervention area. (231). Further, the level of depression of those who were not clinically depressed, but who were at risk of depression, could be reduced with the help of reminiscence therapy groups.

The fact that depression and anxiety have so many interacting risk factors in older adults makes it especially important to detect in time. The earlier the detection, the greater the opportunity to treat successfully. Physical problems, inactivity and a poor psychosocial situation can be addressed during treatment.

9. Treatment

Most older adults with mental illnesses do not seek health services and therefore do not receive treatment. Medication treatment is often based on pharmaceutical studies in young, healthy subjects. Older patients often process medication more slowly and may have an altered response to medication. Older adults also often have various physical illnesses which are treated with medications that can interact with antidepressant medication. This may influence both treatment and how the person responds to medication.

Depression in older adults should, in most cases, be treated in the same way as in younger people, i.e. a combination of psychosocial interventions, psychotherapy (e.g. cognitive behavioural therapy and problem solving therapy) and medication. Older adults usually start with a lower dose of medication. It also often takes longer for older adults to respond to treatment. As in younger people, different antidepressant medications can be combined when there is a lack of treatment response and in severe cases the addition of antipsychotic medication can be tested. The effect of treatment with selective serotonin reuptake inhibitors (SSRIs) in older adults is relatively small compared to the placebo (232). Similar conclusions were found in a meta-analysis which showed that SSRIs and other new antidepressant medication was certainly better than the placebo (233), but that the effect was modest. Most studies include relatively “younger” older adults and knowledge about the effects of antidepressants in older age groups and among the frail elderly is incomplete. Scientific evidence for both antidepressant medication and psychotherapy as a treatment for depression in older adults is relatively limited (234).

Relatively few older adults with depression and anxiety are offered psychotherapeutic treatment (232). There have also been relatively few treatment studies conducted in this area. A meta-analysis suggested that the effect of psychotherapy is comparable in younger and older patients (234). Promising results have been seen in problem solving therapy, where patients learn how to identify and implement solutions to problems that arise in life. Electroconvulsive therapy (ECT) is an effective treatment for depression, especially for severe depression, depression with psychotic symptoms or where antidepressant medication has not helped the patient. Research has shown that ECT can provide more rapid antidepressant effects than medication in older adults (235) and it is more often used in the treatment of older adults than younger people (236). Temporary memory problems are a common side effect. A small study, however, found no evidence that ECT resulted in any long-term effects on memory and other cognitive functions in older adults (237).

The number of treatment studies on anxiety disorders in older adults is very limited and the existing studies focus almost exclusively on GAD. Effects have been reported with modern antidepressant medications and cognitive

behavioural therapy (CBT) (76). It is unclear whether the effect of treatment is better or worse in older adults compared to younger people. Medication is the most common treatment, although psychotherapy also seems to also have an effect among older adults.

10. Knowledge gaps

- Much research has been conducted on dementia among older adults. Depression among older adults has received less attention. Research on anxiety disorders among older adults is a neglected area, as well as suicide prevention and other preventative initiatives for older adults. Some examples of knowledge gaps with a need for further research are: Do older adults experience depression differently than younger people and if so, why? Is atypical depression more common in older adults?
- More knowledge is required about the mechanisms of depression and anxiety disorders in older adults, how their manifestations and causes differ from those in younger age groups, about risk factors, and whether risk factors change over time. More knowledge is also needed about what can be done to prevent depression and anxiety disorders in older adults.
- An area that so far has been explored very little is anxiety disorders such as GAD, panic disorder, social phobia, specific phobia and OCD in older adults, which is also the case internationally. A survey of the risk factors, prognosis, clinical situation and biological mechanisms is needed. Treatment of anxiety disorders in older adults also needs to be studied further.
- More population-based research is needed to identify whether the prevalence of mental illness is increasing or decreasing in older adults.
- An area to be studied further is the mechanisms behind women having a higher incidence of depression and GAD than men. In particular, the importance of gender roles needs to be studied.
- More treatment studies with medication need to be undertaken in older populations, as well as whether treatment affects the prognosis of concurrent physical illness. Given the relatively modest effects of antidepressant medication, future studies should also aim to find ways to predict in advance whether a person has high or low probability of responding to various medical treatments.
- Other forms of treatment, such as psychotherapy and social interventions, need to be studied further as such treatments may be more appropriate for older adults on multiple medications.
- Health economic aspects of depression in the older population needs to be studied.
- Multidisciplinary research is important in order to increase knowledge on depression and anxiety disorders in older adults.