

## Original Research

# Prevalence of depressive symptoms, suicidal ideation and behaviours in young people presenting with a first episode of psychosis

Patrick FitzPatrick<sup>1</sup>, Ellie Brown<sup>2,3</sup>, Rebekah Street<sup>2,3</sup> and Brian O'Donoghue<sup>2,3,4</sup> 

<sup>1</sup>Ballyfermot Adult Mental Health Services, Dublin, Ireland, <sup>2</sup>Centre for Youth Mental Health, University of Melbourne, Parkville, Australia, <sup>3</sup>Orygen The National Centre of Excellence in Youth Mental Health, Parkville, Australia and <sup>4</sup>Department of Psychiatry, University College Dublin, Dublin, Ireland

### Abstract

**Objectives:** Suicide accounts for a proportion of the early mortality in people affected by psychotic disorders. The early phase of illness can represent a particularly high-risk time for suicide. Therefore, in a cohort of young people presenting with first-episode psychosis, this study aimed to determine: (i) the prevalence of suicidal ideation, intent with plan and self-harm and any associated demographic or clinical factors and (ii) the prevalence of depressive symptoms and any associated demographic or clinical factors.

**Methods:** Young people with a first episode of psychosis attending the Early Psychosis Prevention and Intervention Centre in Melbourne were included. Suicidal behaviours were recorded using a structured risk assessment – ‘Clinical Risk Assessment and Management in the Community’, and depressive symptoms were measured using the PHQ-9.

**Results:** A total of 355 young people were included in the study. 57.2% were male, 95.4% were single and over one quarter were migrants. At the time of presentation, 34.6% had suicidal ideation, 6.2% had suicidal intent with a plan, and 21.4% had engaged in self-harm before their presentation. Combined, 39.7% ( $n = 141$ ) presented with suicidal ideation, intent with plan or self-harm. A total of 71.5% ( $n = 118$ ) had moderately severe or severe depressive symptoms, which was strongly associated with suicidal ideation or behaviours at the time of presentation (OR = 4.21, 95% C.I. 2.10–8.44).

**Conclusions:** Depressive symptoms, self-harm and suicidal behaviours are commonly present in the early phases of a psychotic disorder, which has important clinical implications for assessment and management.

**Keywords:** Depression; psychosis; suicide; schizophrenia

(Received 8 September 2023; revised 10 May 2024; accepted 13 June 2024)

### Introduction

Psychotic disorders can significantly affect the individual, their family, as well as society on a broader scale (Whiteford et al., 2013). Frequently, these disorders have their onset in late adolescence and early adulthood (Simon et al., 2017) and if the affected individual does not receive the appropriate holistic treatment, it may result in higher rates of disability and loss of productivity. Furthermore, there is a high early mortality associated with psychotic disorders (Olfson et al., 2015; Simon et al., 2018). Research conducted in the United States has demonstrated overall mortality after the initial diagnosis of a psychotic disorder being roughly 8 times that of general outpatients with deaths due to injury or poisoning (including self-harm, misadventure and assaults) accounting for the majority of that difference. This study also showed deaths due to self-inflicted injury or poisoning were more than 30 times as

likely in the group with new psychotic disorder diagnoses as opposed to general outpatients (Simon et al., 2018).

Longitudinal studies have also echoed this high rate of suicide in early stages of psychosis with rates of up to eighteen times more than comparable general populations (Nordentoft et al., 2002; Dutta et al., 2010; Yuen et al., 2014; Simon et al., 2018).

Systematic reviews have reported the mortality rate from suicide in first-episode psychosis (FEP) to be between 1% and 4% (Sicotte et al., 2021).

Depressive symptoms commonly occur in individuals with FEP and have been linked to poorer long-term outcomes. (Uptegrove et al., 2010; Gardsjord et al., 2016). Meta-analysis suggest depressive symptoms during FEP convey a greater risk of suicidal behaviours later in life (McGinty, et al., 2018) One quarter of individuals presenting with a first episode of a schizophrenia spectrum disorder also meet criteria for a full threshold depressive episode and a half have depressive symptoms that warrant further investigation and possibly treatment (Herniman et al., 2019). Alongside this, a meta-analysis found that nearly one in five individuals with a FEP engage in self-harm before starting treatment (Herniman et al., 2019). An Irish Early Intervention

**Corresponding author:** Brian O'Donoghue; Email: [brian.odonoghue@ucd.ie](mailto:brian.odonoghue@ucd.ie)

**Cite this article:** FitzPatrick P, Brown E, Street R, and O'Donoghue B. Prevalence of depressive symptoms, suicidal ideation and behaviours in young people presenting with a first episode of psychosis. *Irish Journal of Psychological Medicine* <https://doi.org/10.1017/ipm.2024.26>

service reported 47% of FEP patients having suicidal ideation with 38% attesting to this in the month prior to diagnosis. (Foley *et al.*, 2008). This study also reported that a higher degree of insight into mental illness is associated with a higher risk of suicide in those with a FEP. This supports the finding that greater insight is associated with deliberate self harm in those with a first episode of psychosis (Challis *et al.*, 2013).

Interestingly, demographic risk factors associated with self-harm in FEP cohorts differ from other clinical cohorts. Younger females from lower social classes are more likely to present with self-harm and suicidal behaviours, however in a FEP cohort as per the AESOP study, it was found that males and those from higher social classes were more likely to engage in self-harm (Harvey *et al.*, 2008). In addition, the presence of depressive symptoms at the time of a first episode is strongly associated with self-harm, as opposed to any specific psychotic symptom (Challis *et al.*, 2013).

While the risk of suicide is present throughout the lifespan of an individual affected by a chronic and enduring psychotic illness, the early phase of the disorder represents a particularly high-risk period (Uptegrove *et al.*, 2010; Sciotte *et al.*, 2021). Tragically, it is estimated that up to 5% of those with a diagnosis of schizophrenia will die by suicide (Hor and Taylor, 2010). This risk appears to be heightened during the early stages of the illness in comparison to later stages (Dutta *et al.*, 2010).

To further the existing research in this area this study aimed to determine: (i) the prevalence of depressive symptoms and any associated demographic or clinical factors in young people with a FEP and (ii) the prevalence of self-harm and suicidal behaviours in young people presenting with a FEP and any associated demographic or clinical factors.

## Methods

### Participants

This study included young people diagnosed with a FEP between 1st March 2019 and 31st October 2020. The Early Psychosis Prevention and Intervention Centre (EPPIC) service provides care to young people aged 15–24, diagnosed with a FEP, operationalised as experiencing full threshold psychotic symptoms daily for at least one week. The service includes all individuals with a FEP and this includes individuals with a diagnosis of drug induced psychosis, concurrent substance abuse or personality disorders.

### Setting

The EPPIC is an early intervention for psychosis service within Orygen, a state-funded youth mental health service covering a defined catchment area of over one million people within Northern and Western Melbourne.

### Study design

This was a secondary analysis of an existing dataset of a cohort study examining incidence and admission rates of first episode of psychosis. The study consisted of consecutive presentations of young people with a FEP over a twenty-month period between March 2019 and October 2020.

### Instruments & sources of data

The Patient Health Questionnaire (PHQ-9) is an instrument that can be used to screen, diagnose and measure the severity of depression (Kroenke *et al.*, 2001). This instrument can be

self-administered, and it scores each of the diagnostic and statistical manual of mental disorders criteria for major depressive disorder from 0 (not at all) to 3 (nearly every day), providing a total score ranging from 0 to 27. A PHQ-9 scores of 0–4 indicate no depressive symptoms, 5–9 mild, 10–14 moderate, 15–19 moderately severe and 20–27 severe depressive symptoms (Kroenke *et al.*, 2001). Scores below 5 typically indicate the absence of a depressive disorder. Scores ranging from 5 to 9 generally indicate either the absence of depression or the presence of subthreshold depression. Scores between 10 and 14 encompass a spectrum of patients. Scores of 15 or higher typically suggest the presence of major depression (Kroenke *et al.*, 2001).

The PHQ-9 has been shown to be able to accurately identify those at increased risk of suicide amongst outpatients with psychotic disorders (Simon *et al.*, 2019).

Other research looking at the PHQ-9's validity in a wider psychiatric patient sample which includes psychosis supported its use as a severity measure and as a measure of treatment outcome (Beard *et al.*, 2016).

The categories of moderately severe and severe were grouped and categorised as 'severe depression'. A clinician-rated standardised risk assessment 'Clinical Risk Assessment and Management in the Community' completed for all participants at the time of presentation. This is available in Supplementary Material attached.

### Statistical analysis

SPSS version 27 was used for statistical analysis. The data were determined to be either normally or not normally distributed and the appropriate parametric or non-parametric statistical test was then conducted. We used the mean and standard deviation as descriptive statistics for parametric data and the median and intra-quartile ranges for non-parametric data. Binary logistic regression was performed to determine odds ratios for the predictor variables for the outcomes of severe depression and also suicidal intentions & behaviours. Bivariate analysis was conducted initially, and then multivariate regression was used to analyse any significant predictor variables at a  $p$  value  $< 0.05$  in the bivariate analysis.  $T$ -tests, Mann Whitney  $U$  test and chi square tests were used for sociodemographic factors. Cases with missing data were excluded from the analysis.

### Ethical approval

Ethical approval was received from the Melbourne Health Human Research Ethics Committee (HREC). The study included routinely collected clinical data and a waiver for individual consent was granted by the HREC.

## Results

### Eligibility of participants

A total of 480 young people presented with a FEP during the study period and of these 74.0% ( $n = 355$ ) had an assessment of suicidal behaviours at the time of presentation and were included in this study. A comparison of those who were included and not included in the study was undertaken and it was found that migrants were less likely to have an assessment of suicidal risk at presentation (66.0% v. 78.3% of Australian-born,  $\chi^2 = 8.03$ ,  $df = 1$ ,  $p = .005$ ) and young people who were not in employment or education were also less likely to have a formal assessment of suicidal behaviours (69.0% v. 78.6%,  $\chi^2 = 5.69$ ,  $df = 1$ ,  $p = .017$ ). In addition, young people who were admitted at the time of presentation were also less

**Table 1.** Demographic and clinical characteristics of total cohort

Sex	N (%)
Male	203 (57.2)
Female	152 (42.8)
Marital status (data available = 347)	
Single	331 (95.4)
Married	16 (4.5)
Employment status (data available = 353)	
Unemployed/Not attending school	147 (41.6)
Employed/Student	206 (58.4)
Substance Abuse (data available = 346)	
Present	148 (42.8)
Absent	198 (57.2)
Migrant status (data available = 343)	
Born in Australia	246 (71.7)
Migrant	97 (28.3)
Involuntary Admission (data available = 355)	
Present	100 (28.2)
Absent	255 (71.8)
Admitted presentation (data available = 355)	
Admitted	145 (40.8)
Not Admitted	210 (59.2)
PHQ-9 –	
Categories	N (%)
No depressive symptoms	10 (6.1)
Mild depressive symptoms	17 (10.4)
Moderate depressive symptoms	19 (11.6)
Moderately severe depressive symptoms	39 (23.8)
Severe depressive symptoms	79 (48.2)

likely to be included in this study, as the formal risk assessment was not completed (67.8% v. 78.9%,  $\chi^2 = 7.58$ ,  $df = 1$ ,  $p = .006$ ). There were no differences in regards to sex or marital status in those who were eligible to be included and those who were actually included.

### Description of participants

Of the 355 young people included in the study, the median age of participants was 20 years (I.Q.R.: 17–22). Of these, 57.2% ( $n = 203$ ) were male, 42.8% ( $n = 152$ ) were female, 95.4% ( $n = 331$ ) were single and over one quarter (28.3%,  $n = 97$ ) were migrants. A total of 58.4% ( $n = 206$ ) were employed or studying at the time of presentation. Concurrent substance abuse was present in 42.8% ( $n = 148$ ). A total of 40.8% ( $n = 145$ ) of young people were admitted to hospital at the time of presentation and 69.0% ( $n = 100$ ) of these admissions were involuntary. The demographic and clinical characteristics of the included cohort are presented in Table 1.

### Prevalence of suicidal behaviours and associated demographic or clinical factors

At the time of presentation, 34.6% ( $n = 123$ ) of young people had suicidal ideation, while 6.2% ( $n = 22$ ) had suicidal intent with a

plan. A total of 21.4% ( $n = 76$ ) of young people had engaged in self-harm before their presentation. Combined, 39.7% ( $n = 141$ ) of the young people presented with suicidal ideation, planning or self-harm (collectively termed suicidal ideation or behaviours). On univariate analysis, migrants were less likely than Australian-born individuals to present with suicidal ideation or behaviours (23.7% v. 45.9%, OR = 0.37, 95% C.I. 0.22–0.62). Additionally, 26.9% of young people who were admitted to hospital had suicidal ideation or behaviours compared to 48.6% of those who treated as an outpatient (OR = 0.39, 95% C.I. 0.25–0.62) and this was similar for those admitted involuntarily (22.0% v. 47.6%, OR = 0.32, 95% C.I. 0.19–0.55). To further understand this finding, the individual components of the group variable of suicidal ideation or behaviours were examined individually. It was found that young people admitted to hospital were less likely to present with suicidal ideation (21.4% v. 44.0%, OR = 0.35, 95% C.I. 0.21–0.56), but there was no difference in the proportion with suicidal plan or intent (6.9% v. 5.7%, OR = 1.22, 95% C.I. 0.51–2.90) or self-harm (17.9% v. 23.9%, OR = 0.70, 95% C.I. 0.41–1.18). In interpreting these findings, it needs to be considered that those admitted to hospital were more likely to have missing data relating to risk. The association between demographic and clinical factors and suicidal ideation or suicidal behaviours are presented in Table 2.

### Prevalence of depressive symptoms and associated demographic or clinical factors

The PHQ-9 was only completed in 46.5% ( $n = 165$ ) of the sample. The mean level of depressive symptoms on the PHQ-9 was 17.8 (s.d.  $\pm 7.2$ ) and this represented moderately severe depressive symptoms. At the time of presentation, 23.6% ( $n = 39$ ) of young people with a FEP had moderately severe depressive symptoms and a further 47.9% ( $n = 79$ ) had severe depressive symptoms. Combined, this resulted in 71.5% ( $n = 118$ ) having moderately severe or severe depressive symptoms at the time of presentation. Only 6.1% ( $n = 10$ ) of the total cohort had no depressive symptoms at the time of presentation. The associations between demographic and clinical factors associated with the presence of moderately severe or severe depressive symptoms are presented in Table 3. Individuals who were involuntarily admitted were less likely to have moderate severe or severe depressive symptoms (52.5% v. 77.6%, OR = 0.32, 95% C.I. 0.15–0.69).

### Association between depressive symptoms and suicidal ideation or behaviours

A total of 64.4% ( $n = 76$ ) of young people with moderately severe or severe depressive symptoms had suicidal ideation or behaviours compared to 25.5% ( $n = 12$ ) with lower levels of depressive symptoms (OR = 4.60, 95% C.I. 2.38–8.90). When controlled for potential confounds, the association between moderately severe or severe depressive symptoms and suicidal ideation or behaviours remained significant (OR = 4.21, 95% C.I. 2.10–8.44), as did the association with suicidal ideation or behaviours with migrant status (OR = 0.35, 95% C.I. 0.14–0.87) and these results are presented in Table 2.

## Discussion

### Summary of findings

Depressive symptoms and suicidal behaviours are highly prevalent in young people presenting with a first episode of psychosis, with nearly four out of ten young people presenting with a FEP having

**Table 2.** Prevalence of suicidal ideation or behaviours (intent or self-harm)

Variable	Suicidal ideation or behaviours present		Not present		Unadjusted odds ratio			Adjusted odds ratio		
	N (%)	N (%)	OR	95% C.I.	p	OR	95% C.I.	p		
<b>Sex</b>										
Male	75 (36.9)	128 (63.1)	0.76	0.50–1.17	0.218					
Female	66 (42.4)	86 (56.5)								
<b>Marital Status</b>										
Married	4 (25)	12 (75)	1.99	0.63–6.30	0.242					
Single	132 (39.9)	199 (60.1)								
<b>Employment</b>										
Employed/Student	50 (44.2)	115 (55.8)	1.53	1.00–2.38	0.055	1.40	0.65–3.02	0.388		
Unemployed	91 (34)	97 (66)								
<b>Migrant Status</b>										
Migrant	23 (23.7)	74 (76.3)	0.37	0.22–0.62	0.000	0.35	0.14–0.87	0.024		
Australian Born	113 (45.9)	133 (54.1)								
<b>Substance Abuse</b>										
Present	52 (35.1)	96 (64.9)	1.39	0.90–2.16	0.143					
Absent	85 (42.9)	113 (57.1)								
<b>Depression</b>										
Severe depression	76 (64.4)	42 (35.6)	4.60	2.38–8.90	0.000	4.21	2.10–8.44	0.000		
Absent, mild or moderate	12 (25.5)	35 (74.5)								
<b>Admission status</b>										
Admitted	39 (26.9)	106 (73.1)	0.39	0.25–0.62	0.000	0.54	0.19–1.53	0.247		
Outpatient	102 (48.6)	108 (51.4)								
<b>Involuntary Adm</b>										
Present	22 (22)	78 (78)	0.322	0.19–0.55	0.000	1.66	0.39–7.12	0.496		
Absent	119 (46.7)	136 (53.3)								

Variables that had a  $p < 0.10$  on univariate analysis were entered into a multivariate analysis model to determine the adjusted odds ratios.

suicidal ideation, intent or having engaged in self-harm. Depressive symptoms were also highly prevalent in this clinical population and the presence of depressive symptoms was the strongest predictor of suicidal ideation and behaviours.

### Limitations

There are important limitations in this study. There are high rates of missing data, which affected the representativeness of the cohort. It was found that young people admitted to hospital were less likely to attest to suicidal ideation or behaviours. This may be attributed to a bias from missing data as those admitted to hospital were more likely to have missing data in relation to risk or it could be due to the intensive community services that have been established within this service, including home based care teams.

Secondly, the information utilised for this study was obtained in the initial assessment at the time of presentation and it is possible that an individual may reveal more information in subsequent assessments in regards to suicidal ideation, intent and behaviours, particularly as trust within the therapeutic relationship is established.

Furthermore, the specific first-episode psychotic disorder diagnoses were not available for this study, as these diagnoses are typically confirmed after a longitudinal assessment. It would have been informative to have been able to examine the prevalence

of depressive symptoms, suicidal ideation and behaviours across the different diagnostic groups. Additionally, we did not have information pertaining to psychotic symptoms at the time of presentation and while this information was elicited in later clinical assessments, the severity of symptoms was not assessed using a structured instrument.

### Comparison to previous literature

#### Depression

This study showed a prevalence rate of moderately severe/severe depression in the sample at 71.5%. Another study using the CDSS recorded the prevalence rate of depression in FEP at 59% (Uptegrove *et al.*, 2014). Older literature using both Becks Depression Inventory and the CDSS recorded the prevalence of depression in acute psychosis at 70% (Birchwood *et al.*, 2000), broadly in line with this study's findings. As only 46.5% of the cohort were assessed in respect of depressive symptoms there may be some concerns with regard to the potential of selection bias with the possibility of assessors evaluating only those they suspected of having depression.

Across previous literature there is a wide prevalence rates cited – a previous review of 36 studies cited the depression rate in patients with schizophrenia between 6% and 65%, modal rate being 25% (Siris and Bench 2003) This wide range of prevalence owes to

**Table 3.** Prevalence of severe depression

Variable	Severe depression	Absent, mild or moderate depression	Unadjusted odds ratio			Adjusted odds ratio		
			OR	95% C.I.	<i>p</i>	OR	95% C.I.	<i>p</i>
Age			0.97	0.87–1.08	0.546			
Sex	<i>N</i> (%)	<i>N</i> (%)						
Male	65 (71.4)	26 (28.6)						
Female	53 (71.6)	21 (28.4)	1.06	0.57–1.95	0.858			
Employment								
Employed/Student	86 (72.9)	32 (68.1)						
Unemployed	32 (27.1)	15 (31.9)	1.35	0.68–2.67	0.388			
Migrant Status								
Australian Born	101 (76.5)	31 (23.5)						
Migrant	16 (51.6)	15 (48.4)	0.534	0.28–1.20	0.129	0.378	0.16–0.91	0.031
Substance Abuse								
Present	42 (66.7)	21 (33.3)	0.706	0.37–1.33	0.283			
Absent	74 (74.7)	25 (25.3)						
Admission status								
Admitted	21 (52.5)	19 (47.5)	0.32	0.15–0.70	0.004	0.428	0.15–1.21	0.109
Outpatient	97 (77.6)	28 (22.4)						
Involuntary Adm								
Present	8 (40)	12 (60)	0.32	0.11–0.92	0.036	0.458	0.18–1.8	0.262
Absent	110 (75.9)	35 (24.1)						

differences in how depressive symptoms are defined and measured across various studies (Hou et al., 2016). Ideally all participants in this sample would have been assessed for depression symptoms at presentation in order to allow for a more representative result. Whilst this study utilised the PHQ-9 to measure depressive symptoms it would be beneficial to have this supported with a concurrently completed CDSS.

### Suicidal behaviours

This study reported 34.6% of the sample had suicidal ideation at the time of presentation to services, compare to 47% reported in an Irish study (Foley et al., 2008) and 27% in a meta-analysis (Sicotte et al., 2021).

This study showed a total of 21.6% had engaged in self-harm prior to presentation to the service. As previously stated a meta-analysis found that nearly one in five individuals with a FEP engage in self-harm before starting treatment (Herniman et al., 2019) which is quite consistent with our findings.

### Clinical implications

There are important clinical implications that arise from the finding of this study. First, it highlights the need to assess for depressive symptoms alongside psychotic symptoms. Typically, depressive symptoms would be managed using a combination of pharmacological, psychological and social interventions, depending upon the severity of symptoms and the individual's choice (Barnes et al., 2020). However, there is a lack of evidence for the effectiveness of specific interventions for depressive symptoms in individuals with a psychotic disorder, which leads to a lack of clinical guidelines in this area (Barnes et al., 2020). A trial

of antidepressant medication in individuals with a diagnosis of schizophrenia with concurrent depressive symptoms has been recommended by the British Association for Psychopharmacology, however it emphasises that more research is needed in this area (Barnes et al., 2020). The majority of prescribing clinicians appear to adhere to this recommendation, with nearly 70% of prescribers stating that they prescribe antidepressant medication as a first line treatment for these individuals, while nearly one third recommend cognitive behavioural therapy and 12% do not recommend an active intervention but continue to monitor the individuals mental state (Bashir et al., 2022).

The 'watch and wait' approach could also be considered, as previous research has indicated that the majority of depressive symptoms will resolve after the initiation of antipsychotic medication and that levels of depression are relatively low when positive psychotic symptoms are in remission (Oosthuizen et al., 2006). However, it also needs to be considered that this is a high-risk period for further self-harm or suicide attempts and the findings from this study demonstrate that depressive symptoms are strongly associated with suicidal ideation, intent and self-harm, therefore, the more conservative 'watch and wait' approach would need to include frequent monitoring of the severity of depressive symptoms and risks.

A further challenge in this clinical population is that differentiating depressive symptoms from negative symptoms can be challenging, especially when using rating scales that may exhibit symptom overlap, such as anhedonia, anergia, and amotivation. In this study, negative symptoms were not measured separately, so it is possible that these symptoms may have been recorded as depressive symptoms and this is an important limitation to consider when interpreting the findings of this study. However,

there is some evidence that negative symptoms may respond to antidepressant medication (Jockers-Scherubl et al., 2005; Singh et al., 2010).

This study highlights the established importance of the need to assess young people presenting with a FEP for depressive symptoms, suicidal ideation, intent and self-harm but also conversely highlights the need to screen young people presenting with suicidal behaviours for any signs of psychosis. Self-harm and suicidal behaviour tend to present out of hours and to emergency departments (McNicholas et al., 2010) or other on-call settings, whilst this can be busy environment screening for psychotic symptoms should be a pertinent part of assessment. There is also some emerging evidence that self-harm and suicidal behaviours can precede the onset of a psychotic disorder, emphasising the importance of early identification and intervention. as it has been found that 12.8% of young people who presented with self-harm subsequently were diagnosed with a psychotic disorder by the age of 28 (Bolhuis et al., 2021).

## Conclusions

Even when the limitations of this study are considered, the main finding of the study still stand that the prevalence of depressive symptoms, suicidal ideation and behaviours are high in young people with a first episode of psychosis and these factors need to be considered routinely in the assessment and management decisions of this clinical population.

**Supplementary material.** The supplementary material for this article can be found at <http://doi.org/10.1017/ipm.2024.26>.

**Competing interests.** None.

**Financial support.** This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

**Ethical standards.** The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

## References

- Barnes TRE, Drake R, Paton C, Cooper SJ, Deakin B, Ferrier I N, Gregory CJ, Haddad PM, Howes OD, Jones I, Joyce EM, Lewis Sön, Lingford-Hughes A, MacCabe JH, Owens DC, Patel MX, Sinclair JMA, Stone JM, Talbot PS, Upthegrove R, Wieck A, Yung AR (2020). Evidence-based guidelines for the pharmacological treatment of schizophrenia: updated recommendations from the British association for psychopharmacology. *Journal of Psychopharmacology* 34, 3–78. doi:10.1177/0269881119889296.
- Bashir Z, Griffiths SL, Upthegrove R (2022). Recognition and management of depression in early psychosis. *BJPsych Bulletin* 46, 83–89. doi:10.1192/bjb.2021.15.
- Beard C, Hsu KJ, Rifkin LS, Busch AB, Björgvinsson T (2016). Validation of the PHQ-9 in a psychiatric sample. *Journal of Affective Disorders* 193, 267–273. doi:10.1016/j.jad.2015.12.075.
- Birchwood M, Iqbal Z, Chadwick P, Trower P (2000). Cognitive approach to depression and suicidal thinking in psychosis. *British Journal of Psychiatry* 177, 516–521. doi:10.1192/bjp.177.6.516.
- Bolhuis K, Lång U, Gyllenberg D, Kääriälä A, Veijola J, Gissler M, Kelleher I (2021). Hospital presentation for self-harm in youth as a risk marker for later psychotic and bipolar disorders: a cohort study of 59 476 finns. *Schizophrenia Bulletin* 47, 1685–1694. doi:10.1093/schbul/sbab061.
- Challis S, Nielssen O, Harris A, Large M (2013). Systematic meta-analysis of the risk factors for deliberate self-harm before and after treatment for first-episode psychosis. *Acta Psychiatrica Scandinavica* 127, 442–454. doi:10.1111/acps.12074.
- Dutta R, Murray RM, Hotopf M, Allardyce J, Jones PB, Boydell J (2010). Reassessing the long-term risk of suicide after a first episode of psychosis. *Archives of General Psychiatry* 67, 1230–1237. doi:10.1001/archgenpsychiatry.2010.157.
- Foley S, Jackson D, McWilliams S, Renwick L, Sutton M, Turner N, Kinsella A, O'Callaghan E (2008). Suicidality prior to presentation in first-episode psychosis. *Early Intervention in Psychiatry* 2, 242–246. doi:10.1111/j.1751-7893.2008.00084.x.
- Gardsjord ES, Romm KL, Friis S, Barder HE, Evensen J, Haahr U, ten Velden Hegelstad W, Joa I, Johannessen JO, Langeveld J, Larsen TK, Opjordsmoen S, Rund BR, Simonsen E, Vaglum P, McGlashan T, Melle I, Rossberg JI (2016). Subjective quality of life in first-episode psychosis. A ten year follow-up study. *Schizophrenia Research* 172, 23–28. doi:10.1016/j.schres.2016.02.034.
- Harvey SB, Dean K, Morgan C, Walsh E, Demjaha A, Dazzan P, Morgan K, Lloyd T, Fearon P, Jones PB, Murray RM (2008). Self-harm in first-episode psychosis. *British Journal of Psychiatry* 192, 178–184. doi:10.1192/bjp.bp.107.037192.
- Herniman SE, Allott K, Phillips LJ, Wood SJ, Uren J, Mallawaarachchi SR, Cotton SM (2019). Depressive psychopathology in first-episode schizophrenia spectrum disorders: a systematic review, meta-analysis and meta-regression. *Psychological Medicine* 49, 2463–2474. doi:10.1017/S0033291719002344.
- Hor K, Taylor M (2010). Suicide and schizophrenia: a systematic review of rates and risk factors. *Journal of Psychopharmacology* 24, 81–90. doi:10.1177/1359786810385490.
- Hou C-L, Ma X-R, Cai M-Y, Li Y, Zang Y, Jia F-J, Lin Y-Q, Chiu HFK, Ungvari GS, Hall BJ, Zhong B-L, Cao X-L, Xiang Y-T (2016). Comorbid moderate-severe depressive symptoms and their association with quality of life in chinese patients with schizophrenia treated in primary care. *Community Mental Health Journal* 52, 921–926. doi:10.1007/s10597-016-0023-5.
- Jockers-Scherubl MC, Bauer A, Godemann F, Reischies FM, Selig F, Schlattmann P (2005). Negative symptoms of schizophrenia are improved by the addition of paroxetine to neuroleptics: a double-blind placebo-controlled study. *International Clinical Psychopharmacology* 20, 27–31. doi:10.1097/00004850-200501000-00006.
- Kroenke K, Spitzer RL, Williams JB (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine* 16, 606–613. doi:10.1046/j.1525-1497.2001.016009606.x.
- McGinty J, Sayeed Haque M, Upthegrove R (2018). Depression during first episode psychosis and subsequent suicide risk: a systematic review and meta-analysis of longitudinal studies. *Schizophrenia Research* 195, 58–66. doi:10.1016/j.schres.2017.09.040.
- McNicholas F, O'Sullivan M, Lennon R, Doherty M, Adamson N (2010). Deliberate self-harm (DSH) out of hour's presentations. *Irish Journal of Psychological Medicine* 27, 11–14. doi:10.1017/S079096670000847.
- Nordentoft M, Jeppesen P, Abel M, Kasso P, Petersen L, Thorup A, Krarup G, Hemmingsen R, Jørgensen P (2002). OPUS study: suicidal behaviour, suicidal ideation and hopelessness among patients with first-episode psychosis. *British Journal of Psychiatry* 181, s98–s106. doi:10.1192/bjp.181.43.s98.
- Olson M, Gerhardt T, Huang C, Crystal S, Stroup TS (2015). Premature mortality among adults with schizophrenia in the United States. *JAMA Psychiatry* 72, 1172–1181. doi:10.1001/jamapsychiatry.2015.1737.
- Oosthuizen P, Emsley R, Niehaus D, Koen L, Chiliza B (2006). The relationships between depression and remission in first-episode psychosis. *World Psychiatry : official Journal of the World Psychiatric Association (WPA)* 5, 172–176.
- Sicotte R, Iyer SN, Kiepora B, Abdel-Baki A (2021). A systematic review of longitudinal studies of suicidal thoughts and behaviors in first-episode psychosis: course and associated factors. *Social Psychiatry and Psychiatric Epidemiology* 56, 2117–2154. doi:10.1007/s00127-021-02153-2.
- Simon GE, Coleman KJ, Yarborough BJH, Operaskalski B, Stewart C, Hunkeler EM, Lynch F, Carrell D, Beck A (2017). First presentation with

- psychotic symptoms in a population-based sample. *Psychiatric Services* **68**, 456–461. doi:[10.1176/appi.ps.201600257](https://doi.org/10.1176/appi.ps.201600257).
- Simon GE, Stewart C, Yarborough BJ, Lynch F, Coleman KJ, Beck A, Operskalski BH, Penfold RB, Hunkeler EM** (2018). Mortality rates after the first diagnosis of psychotic disorder in adolescents and young adults. *JAMA Psychiatry* **75**, 254–260. doi:[10.1001/jamapsychiatry.2017.4437](https://doi.org/10.1001/jamapsychiatry.2017.4437).
- Simon GE, Yarborough BJ, Rossom RC, Lawrence JM, Lynch FL, Waitzfelder BE, Ahmedani BK, Shortreed SM** (2019). Self-reported suicidal ideation as a predictor of suicidal behavior among outpatients with diagnoses of psychotic disorders. *Psychiatric Services* **70**, 176–183. doi:[10.1176/appi.ps.201800381](https://doi.org/10.1176/appi.ps.201800381).
- Singh SP, Singh V, Kar N, Chan K** (2010). Efficacy of antidepressants in treating the negative symptoms of chronic schizophrenia: meta-analysis. *British Journal of Psychiatry* **197**, 174–179. doi:[10.1192/bjp.bp.109.067710](https://doi.org/10.1192/bjp.bp.109.067710).
- Siris SG, Bench C** (2003). Depression and schizophrenia. In: *Schizophrenia*. Wiley, pp. 142–167. <https://doi.org/10.1002/9780470987353.ch9>.
- Uptegrove R, Birchwood M, Ross K, Brunett K, McCollum R, Jones L** (2010). The evolution of depression and suicidality in first episode psychosis. *Acta Psychiatrica Scandinavica* **122**, 211–218. doi:[10.1111/j.1600-0447.2009.01506.x](https://doi.org/10.1111/j.1600-0447.2009.01506.x).
- Uptegrove R, Ross K, Brunet K, McCollum R, Jones L** (2014). Depression in first episode psychosis: the role of subordination and shame. *Psychiatry Research* **217**, 177–184. doi:[10.1016/j.psychres.2014.03.023](https://doi.org/10.1016/j.psychres.2014.03.023).
- Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, Charlson FJ, Norman RE, Flaxman AD, Johns N, Burstein R, Murray CJL, Vos T** (2013). Global burden of disease attributable to mental and substance use disorders: findings from the global burden of disease study 2010. *The Lancet* **382**, 1575–1586. doi:[10.1016/S0140-6736\(13\)61611-6](https://doi.org/10.1016/S0140-6736(13)61611-6).
- Yuen K, Harrigan SM, Mackinnon AJ, Harris MG, Yuen HP, Henry LP, Jackson HJ, Herrman H, McGorry PD** (2014). Long-term follow-up of all-cause and unnatural death in young people with first-episode psychosis. *Schizophrenia Research* **159**, 70–75. doi:[10.1016/j.schres.2014.07.042](https://doi.org/10.1016/j.schres.2014.07.042).