Sex differences in the incidence rate of affective psychotic disorder

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Masterthesis – Clinical Psychology

S2929171
02-02-2025
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Abstract

Psychotic disorders, often characterized by hallucinations and/ or delusions, can lead to significant health risks for patients. They result in higher suicide rates, decreased life expectancy and higher rates of premature death. Incidence rates can vary between samples and populations, and may also differ between sexes, making it difficult to estimate a valid incidence rate. Previous research has focused on an overall incidence rate for all psychotic disorders. For this research, the focus is on the incidence rates for men and women in affective psychotic disorders and the possible differences. Historically, women were often left out of clinical trials. Now that women are participating, it is important to see if differences between men and women exist. If they do exist, this could potentially contribute to better health care for women and men. It is hypothesized that the incidence rate for affective psychotic disorder is higher in women than men. To test this hypothesis, a meta-analysis was performed. The inclusion criteria were 1) all affective psychotic disorders and 2) incidence rates for men and women. After title screening, abstract screening, full text screening and data extraction, eight studies met the inclusion criteria. After computing the incidence rate ratio, it was found that women are diagnosed more often than men with an affective psychotic disorder (IRR = 0.5326, $P < 0.0001$). The pooled incidence rate for men was 12,6 per 100.000 person-years, for women this was 23,8 per 100.000 person-years. It is recommended to invest in more research on female populations, to see if there are different risk factors for women than men, if women might need different treatment than men, and whether or not we as a society can contribute to better outcomes by early recognition of an affective psychotic disorder.

Keywords: sex differences, affective psychotic disorder, incidence rates

Introduction

Psychotic disorders can indicate someone is losing their grip on reality, often expressed by experiencing hallucinations and/or delusions. This comes with a heavy burden for the patient: living in a world where no one agrees on their reality. Family and society as a whole are also impacted by people suffering from psychotic disorders (Knapp, Mangalore & Simon, 2004). For example, suicide rates are high in patients who suffer from schizophrenia (Mamo, 2007), impacting not only themselves but everyone around them. Moreover, people with schizophrenia have a decreased life expectancy up to fifteen years. They experience higher rates of premature death due to unnatural causes compared to the general population, but most of these premature deaths may be from preventable comorbid diseases, such as cardiovascular disease and diabetes (Ali, Santomaura, Ferrari & Charlson, 2023). This implicates severe health risks for people suffering from a psychotic disorder, and these health risks might be different for men and women.

Considering the health implications associated with having a psychotic disorder, it is important to know the incidence rates of psychotic disorders. This can inform public health planning, contribute to awareness and education, understand risk factors, but also give direction to new research and policy. Incidence rates can differ between samples, and due to different study designs and populations, it can be quite hard to estimate a valid incidence rate. For example, the study of Jörgensen, Ahlbom, Allebeck and Dalman (2010) found an incidence rate of 28 per 100.000 persons in a schizophrenia inpatient population, but 13 per 100.000 persons in a schizophrenia outpatient population. This shows a major difference between two populations, namely inpatient versus outpatient. Furthermore, it is important to take potential differences between men and women into account regarding incidence rates of psychotic disorders.

Historically, women were likely to be excluded from clinical trials (McCarthy, 1994). Because most participants were male, many disorders and their symptoms are mainly a description of the male experience. Nowadays, more women have been included in research and clinical trials. With more women included, several differences between men and women have been demonstrated in previous research about psychotic disorders. For example, schizophrenia in men is usually diagnosed around late adolescence or in their early twenties, while women are more often diagnosed into their twenties or thirties (National Institute of Mental Health, n.d.). The meta-analysis about first-episode psychosis by Carter, Wootten, Archie, Terry & Anderson (2022) concludes that men generally suffer more severe negative symptoms – such as lack of emotional expression – whereas women experience more severe depressive symptoms. Furthermore, women had a lower prevalence of substance use issues (Carter et al., 2022).

As illustrated above, women might present with a different set of symptoms and have different experiences than men, even within the same diagnosis. Similarly, it is expected there might be a difference in which specific psychotic disorders might present more in men or women.

Most of the previous research has reported general incidence rates of psychotic disorders, the main conclusion being that more men than women are diagnosed with a psychotic disorder (Jongsma et al., 2019; Kirkbride et al., 2012). However, according to Kirkbride et al. (2012) the incidence rates of different psychotic disorders – as distinguished in the DSM-5 – may differ between sexes. For example, Jongsma et al. (2019) found that incidence rates were higher for the diagnoses of affective psychotic disorder for women than men. However, Kirkbride et al. (2012) found this difference in two studies, but not in others. This emphasizes the importance of investigating differences in incidence rates for men and women.

An affective psychotic disorder is, among others, schizoaffective disorder, which combines symptoms of psychosis and mood disorders. Other examples are either Major Depressive Disorder (MDD) with psychotic features or Bipolar Disorder (BPD; type I or II) with psychotic features, such as hallucinations and/ or delusions. People who suffer from an affective psychotic disorder, present with a different set of symptoms compared to a non-affective psychotic disorder, because the mood disorder influences the components of the psychotic disorder. In people with depression, psychotic symptoms can consist of delusions of guilt, and/ or hallucinations that remind the person of their failures which encourage them to hurt themselves. For people suffering from manic episodes in bipolar disorder, delusions of grandiosity are more likely (Moukaddam, Howse, Kanter, Chaudhry & Wojcik, 2023). Furthermore, the study by Ramain, Conus and Golay (2023) found a higher level of suicidal thoughts and attempts among people suffering from affective psychosis compared to people suffering from non-affective psychosis.

Affective disorders, such as MDD or BPD, appear to affect women at a higher rate than men (Yeretzian, Sahakyan, Kozloff & Abrahamyan, 2023; Nolen-Hoeksema, 1990; Faravelli, Scarpato, Castellini and Lo Sauro,2013). Since affective disorders are more common in women, it is possible that the incidence rate of specifically affective psychotic disorder – in this study defined as schizoaffective disorder, mood disorder or bipolar disorder with psychotic symptoms – is actually higher in women than in men, in contrast to the higher incidence rate of psychotic disorders in general for men. To this date, no research has specifically focused on differences in incidence rates for affective psychotic disorders between men and women. Since incidence rates can show major differences between samples, a meta-analysis will be performed based on big cohorts and population surveys on the incidence rate of affective psychotic disorder for men and women.

Method

To investigate a potential difference in incidence rates between men and women with an affective psychotic disorder, a meta-analysis will be carried out.

Search strategy and inclusion criteria

To perform this meta-analysis, a broad search has been conducted for relevant articles in four databases, PubMed, PsycINFO, Web of Science and Embase. The search terms are included in appendix 1[1]. The original search yielded 57.081 hits, of which 56.850 remained after duplicates were removed.

To identify relevant articles from this database, first all titles will be screened using inclusion criteria. The inclusion criteria for individual studies are 1) all affective psychotic disorders (i.e. schizoaffective disorder, bipolar affective disorder, major depressive disorder with psychotic features, affective psychosis, mania with psychotic symptoms, manic-depressive psychosis circular type, manic-depressive psychosis depressed type, psychotic depression) and 2) incidence rates in men and women[2]. Titles will be included for abstract review if there is any doubt about their relevance based on the title.

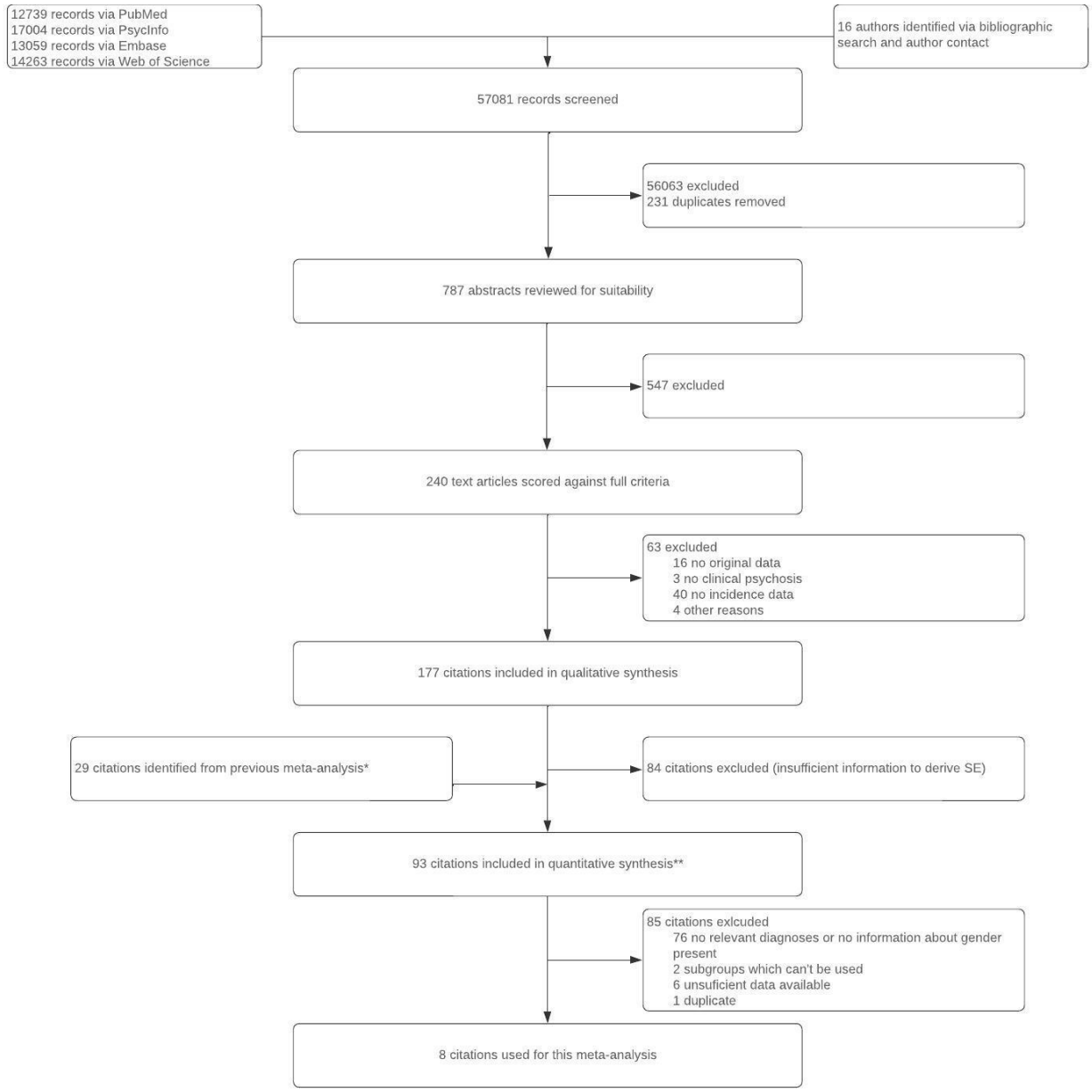
After the title screening is complete, the next steps are abstract screening, full text screening and data extraction. Considering the time limitation for this research, it was impossible to complete all the steps during this thesis. The title screening to complement the already available included literature from a previous search (up to 2018), has been completed by the author of this thesis. The analysis in this thesis, will be carried out using the available data up to 2018.

After the screening process, eight studies fit the inclusion criteria for the meta-analysis about affective psychotic disorders (see figure 1).

[1] The appendix used, is derived from the research of Jongsma et al., 2018

Figure 1

Flowchart data collection



* Citations derived from Kirkbride and colleagues, which cover England only from 2002-09

** Citations derived from Jongsma and colleagues, which cover international incidence from 2002-17

[2] Both reported incidence rates and derived incidence rates were used, where the derived incidence rate could be computed based on sample size and number of diagnosed people

Data extraction

Of the included research articles, the following data will be extracted: country in which the research has been conducted, age and sex of participants, diagnosis, population size and type of research conducted and the incidence – or crude – rates. This data will be used for analysis of incidence rates and descriptive statistics.

Analyses

To analyze sex differences in the incidence rate of affective psychotic disorder, there will be a descriptive data analysis comparing the crude rates of men and women diagnosed with an affective psychotic disorder. To test the hypothesis that the incidence rate is higher for women than men, the incidence rate ratio will be used, to allow us to compare the two sexes and determine whether the difference is statistically significant. This will be done with the incidence rate ratio calculator provided by MedCalc (2024). To compute the rates – for both men and women – the total cases with a diagnoses were counted and the total person-years of the groups. Based on these numbers, an incidence rate ratio (IRR) is computed. To test whether the ratio between the two groups is statistically significant, an alpha of 0.05 will be used. The incidence rate that will be reported, is a pooled incidence rate, meaning that it's the incidence rate of all the studies combined. This leads to a more reliable incidence rate, compared to computing all the individual incidence rates.

Crude rates will be used to report the incidence rates. This means the number of new cases occurring in a specified population per year, or in our case in 100.000 person-years. If the actual crude rate per 100.000 person-years is reported in the included studies, this will be used for the data-analysis. If not, crude rates will be calculated based on identified diagnosed persons, population size and duration of the study. To illustrate how this is done, an example is most clarifying.

Example

If a study has been conducted for 5 years and it includes 2 subjects with an affective psychotic disorder in a total population of 37.930 persons, we would compute the person-years first in order to compute the crude rate. This is done to correct for the length of a study, because you will most likely find more people with a psychotic disorder in a study conducted over ten years, than in a study with the span of a year (per the example of Jongsma et al., 2019). The person-years for this study is 37.930 x 5 = 189.650. Now the crude rate can be computed by dividing the subjects by the person-years and multiplying it by 100.000, meaning for this study the crude rate is 2/ ((37.930 x 5) x 100.000) = 1,05.

Results

From the eight studies used for this meta-analysis, four studies have reported the crude rates (Lloyd et al., 2005; Bogren et al., 2010; Baldwin et al., 2005). For the remaining studies we used the derived crude rate (Scully et al., 2002; Selten et al., 2003; Jongsma et al., 2018; Richardson et al., 2018). For the study of Lasalvia et al. (2014), we used the reported crude rate for affective psychosis and the derived crude rate for schizoaffective disorder.

All of the included studies were conducted in Europe and the United Kingdom, the population size varied from around 60.000 to 60 million people. One study was a case register study, all the others were first contact studies (see Table 1). Study characteristics, including exact diagnoses, are reported in Table 1.

Table 1

Descriptive statistics of included studies

Study	Country	Age	Diagnoses	Number of cases	Population size	Study duration	Type of research
Scully et al., 2002	Ireland	15+	Schizoaffective, major depressive disorder with psychotic features	15	73.638	5 years	First contact
Lloyd et al., 2005	England	16 – 64	Mania with or without psychotic symptoms or	75	1.630.682	1 year	First contact

			bipolar affective disorder				
Bogren et al., 2010	Sweden	15+	Affective psychosis	19	1.129.062	1 year	First presentation
Lasalvia et al., 2014	Italy	15-54	Affective psychosis, schizoaffective disorder	167	3.077.555	1 year	First contact
Selten et al., 2003	The Netherlands	All ages	Manic-depressive psychosis circular type or depressed type	14.749	60.870.035	1 year	Case register
Jongsma et al., 2018	EU-GEI[3]	18-64	Affective psychoses	550	12.060.964	1 year	First contact
Richardson et al., 2018	England	16 – 35	Affective psychoses	83	2.021.794	1 year	First contact
Baldwin et al., 2005	Ireland	15+	Affective psychoses, Schizoaffective disorder	83	613.202	8 years	First contact

[3] England, France, Italy, The Netherlands, Spain, Brazil

The crude rates of the included studies varied from 1,7 to 16,8 for men, for women this varied from 1,6 to 32,1. All the crude rates are reported in Table 2, for both men and women.

Table 2

Crude rate per sex

	Sex	Diagnosed	Person years	Crude rate
Scully et al., 2002	Male	8	189.650	4,2*
	Female	7	178.540	3,9*
Lloyd et al., 2005	Male	36	818.182	4,4
	Female	39	812.500	4,8
Bogren et al., 2010	Male	10	570.645	1,7
	Female	9	558.417	1,6
Lasalvia et al., 2014	Male	71	1.579.168	4,5*
	Female	96	1.498.387	6,4*
Selten et al., 2003	Male	5.309	31.434.711	16,8*
	Female	9.440	29.435.324	32,1*
Jongsma et al., 2018	Male	256	5.970.022	4,3*
	Female	294	6.090.942	4,8*
Richardson et al., 2018	Male	47	1.032.306	4,6*
	Female	36	989.488	3,6*
Baldwin et al., 2005	Male	42	2.518.520	13,3*
	Female	41	2.387.096	13,7*

* Derived crude rate

The analysis showed a pooled incidence rate (ratio) of 1:7907 for men, and 1:4211 for women, meaning that for each man who got a diagnosis, another 7907 did not (see Table 3). The pooled incidence rate for men was 12,6 per 100.000 person-years, for women this was 23,8 per 100.000 person-years. The difference between sexes in incidence of affective psychotic disorders was statistically significant (IRR = 0.5326, P < 0.0001, CI [0.5153; 0.5504]) (see Appendix 2).

Table 3

Incidence rate for men and women

	Men	Women	Men posthoc	Women posthoc
Number of cases	5.579	9.962	270	522
Total person-years	44.113.204	41.950.694	12.678.493	12.515.370
Diagnosed vs. not diagnosed	1:7.907	1:4.211	1:46.957	1:23.976
Pooled incidence rate per 100.000 person-years	12,6	23,8	2,1	4,2

Posthoc Analysis

The study of Selten showed an incidence rate of 16,8 for men and 32,1 for women. The next highest incidence rate reported was by Baldwin et al. (2005) with an incidence rate of 13,3 for men and 13,7 for women. Because the study by Selten et al. (2003) is an outlier, the analysis was repeated without this study. This analysis showed a pooled incidence rate (ratio) of 1:46.957 for men, and 1:23.976 for women (see Table 3). The pooled incidence rate for men was 2,1 per 100.000 person-years, for women this was 4,2 per 100.000 person-years. The

difference between the sexes in the incidence rate of affective psychotic disorders remained statistically significant (IRR = 0.5106, P < 0.0001, CI [0.4392; 0.5925]) (see Appendix 3).

Discussion

The aim of this research was to examine if there is a significant difference between the incidence rates of men and women with an affective psychotic disorder. Our results demonstrate that women are diagnosed twice as often as men with an affective psychotic disorder. This is in line with the hypothesis of this research, that more women are diagnosed with an affective psychotic disorder.

Interpretation of results

What stood out when reviewing the results, was that both incidence rates for men and women showed great variability, but the variability among women was higher. Selten et al. (2003) reported an extremely high crude rate for women of 32,1 per 100.000 person-years, which accounted for most of this great variability. Upon closer inspection of the study, the reason it is an outlier could be that the population consists of immigrants who migrated to the Netherlands, and that this population differs significantly from the general population. This might also be the reason the pooled incidence rate turned out higher than expected. However, without this study included, the difference in incidence rates between men and women remained statistically significant. Baldwin et al. (2005) also reported a relatively high crude rate for women of 13,7 per 100.000 person-years, however upon closer inspection of the article no apparent reason could be found for this outlier.

Comparison with existing literature

There was little research which focused on which of the psychotic disorders are more often diagnosed in women. Jongsma et al. (2019) and Kirkbride et al. (2012) found that women were more often diagnosed with an affective psychotic disorder. However Kirkbride et al. (2012) found mixed results. Our study contributes to the small body of literature available on this topic and confirms the previous findings of women being diagnosed more often with an affective psychotic disorder.

Jongsma et al. (2019) reported an incidence rate ratio (IRR) of 0.87 for affective disorders (CI [0.75; 1.00] and an incidence rate ratio of 0.90 (CI [0.73; 1.11]) for psychotic bipolar disorder. This is higher than our reported incidence rate ratio (IRR = 0.53), and could be due to the inclusion of different affective psychotic disorders for our research, such as depression with psychotic symptoms or schizoaffective disorder. It could be that within these affective psychotic disorders, there is a difference in which of the affective psychotic disorder is more often diagnosed in women or men.

Implications of results

When looking at practical implications, this study could contribute to create awareness for both patients and practitioners, an informed and improved health care system and give direction to new research and policy by educating policy makers. Above all, it could lead to better care for women. One example is that an important treatment option for affective psychotic disorders is medication. From a historical viewpoint, men have participated more in clinical trials than women (McCarthy, 1994). Meaning conclusions which are drawn from these data, and which might give direction to treatment, are based on predominantly male data. It would be wise to review current treatment programs, and to find out if women are included in the studies on which these programs are based. This might give confirmation or refutation that both men and women benefit equally, or whether a change should be made to treat women more successfully.

Right now we assume that the incidence rates we've found are representative for the current situation, however a different explanation could also be possible. For example, the sex differences in incidence rates of affective psychotic disorder could be due to bias. Social norms and gender roles might contribute in a negative way towards the big difference in incidence of diagnosing men and women with an affective psychotic disorder. For example, in Western society, a masculine gender role means that they encourage physical toughness and

emotional stoicism (Amin, Kågesten, Adebayo & Chandra-Mouli, 2018). According to these same social norms, women have the role of being the family-caregiver and needing protection. These social norms might contribute to men seeking less help for affective complaints because these are viewed as feminine (Sagar-Ouriaghli, Godfrey, Bridge, Meade & Brown, 2019). This could also lead to clinician bias, meaning when women come forward with the same symptoms, they might be diagnosed more easily because there is precedent for a diagnosis and because clinicians might find a diagnosis for a woman more plausible, because these complaints are more socially accepted for women. For example, it has already been demonstrated that clinicians show a bias towards diagnosing women less often with autism or attention deficit hyperactivity disorder (Garb, 2021). Similar results were found in a study that compared female and male case descriptions being identical except for the gender, in which more men were diagnosed with schizophrenia than women (Høye, Rezvy, Hansen & Olstad, 2006). It is unclear if there is such a bias towards underdiagnosing men with an affective psychotic disorder. Naturally, it is still possible that the difference in incidence rates between men and women is not the consequence of bias but because women simply experience more symptoms of an affective psychotic disorder.

Limitations

One limitation of this research is that the included studies were performed in Western Europe, making it impossible to generalize the results of this research to the world population. The only study that was included in this meta-analysis – that did include a country outside of Europe – was the study by Jongsma et al. (2018), which included Brazil. This is unfortunate, considering it is very valuable to know if differences exist between Western European countries, and the rest of the world.

The second limitation is that all studies were either first contact, first presentation or case register studies which had a duration of a year. The exceptions on study duration, were

two studies which respectively lasted eight and five years (Baldwin et al., 2005; Scully et al., 2002). The lack of big cohort studies, means the participants on which we have based our analysis were not followed for longer than a year. Big cohort studies mean a lot of participants and follow-up of these participants, which might lead to some information about the trends of psychotic disorders. For example, it could tell us if women have always been diagnosed more often with an affective psychotic disorder or if this fluctuates over time.

Furthermore the number of included studies was less than we hoped for because many studies did not report specific incidence rates per diagnosis or per sex. Had it been the case that incidence rates were reported per sex and diagnosis, a lot more studies could have been included, making the reported incidence rates more reliable.

Last but not least, in this study there was a dichotomous distinction made between male and female. This is done in nearly every study available, which made it hard to deviate from this trend. However, there is a broad spectrum of gender identity and people who don't conform to male or female who weren't considered in these results.

Recommendations

Knowing women are diagnosed more often with an affective psychotic disorder, more research should be done on female populations to get an understanding of these findings. For example research into differing risk factors, hormones which could play a role or clinician bias. Simply put, it would be advised to investigate where the sex differences stem from. It is also important to investigate where current treatment guidelines are based on, and if effects of these treatments for specific diagnoses that affect more women, were also tested on sufficient women. Furthermore, it is important to look beyond the gender as male and female, to include all different gender identities in all types of research – including incidence studies.

Last but not least, it would benefit patients, to educate practitioners about existing sex differences and the meaning of these differences because these are the people who have to

treat you. The hope is, all researchers take sex differences into account and investigate until the goal of total equality in knowledge is reached.

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Appendix

Appendix 1

*Description of search strategies**

Below are the search strategies as used in the PubMed and Web of Science databases.

PubMed

(((((((inciden*[Title/Abstract]) OR epidemiolog*[Title/Abstract])) OR ((((((episod*[Title/Abstract]) OR contact*[Title/Abstract]) OR admission*[Title/Abstract]) OR admit*[Title/Abstract])) AND (((first*[Title/Abstract]) OR 1st[Title/Abstract]) OR hospital*[Title/Abstract]))) OR ((case[Title/Abstract]) AND register*[Title/Abstract])) OR case control*[Title/Abstract]) OR ((((prospectiv*[Title/Abstract]) OR population*[Title/Abstract]) OR communit*[Title/Abstract]) OR survey*[Title/Abstract]))) AND (((((((((schizo*[Title/Abstract]) OR (((psychotic[Title/Abstract]) OR psychosis[Title/Abstract]) OR psychoses[Title/Abstract])) OR bipolar disorder*[Title/Abstract]) OR delusion* disorder[Title/Abstract]) OR (((((illness*[Title/Abstract]) OR disorder*[Title/Abstract])) AND mental[Title/Abstract]) AND (((severe[Title/Abstract]) OR serious[Title/Abstract]) OR chronic[Title/Abstract]))) OR SMI[Title/Abstract]) OR mani* depressi*[Title/Abstract]) OR chronic psychosis) OR schizoaffective disorder) AND ("2002/01/01"[PDat] : "2017/12/31"[PDat])

Web of science

Supplemental Table 2: Search strategy as used in Web of Science

#19	#18 AND #1 *DocType=All document types; Language=All languages;*
#18	#17 AND #11 *DocType=All document types; Language=All languages;*
#17	#16 OR #15 OR #14 OR #13 OR #12 *DocType=All document types; Language=All languages;*
#16	TI=(prospectiv* or population* or communit* or survey*) *DocType=All document types; Language=All languages;*
#15	TI=(case control*) *DocType=All document types; Language=All languages;*
#14	TI=(case AND register) *DocType=All document types; Language=All languages;*
#13	TI=(inciden* OR epidemiolog*) *DocType=All document types; Language=All languages;*
#12	TI=((first* OR 1st OR hospital*) AND (episod* OR contact* OR admission* OR admit*)) *DocType=All document types; Language=All languages;*
#11	#10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 *DocType=All document types; Language=All languages;*
#10	TI=(schizoaf* disorder) *DocType=All document types; Language=All languages;*
#9	TI=(mani* depressi*) *DocType=All document types; Language=All languages;*
#8	TS=psychosis *DocType=All document types; Language=All languages;*
#7	TI=(SMI) *DocType=All document types; Language=All languages;*
#6	TI=((sever OR serious OR chronic) AND mental AND (illness* OR disorder*)) *DocType=All document types; Language=All languages;*
#5	TI=(delusion* disorder) *DocType=All document types; Language=All languages;*
#4	TI=(bipolar disorder*) *DocType=All document types; Language=All languages;*
#3	TI=(psychotic OR psychosis OR psychoses) *DocType=All document types; Language=All languages;*
#2	TI=(schizo*) *DocType=All document types; Language=All languages;*
#1	PY=(2002-2017) *DocType=All document types; Language=All languages;*

* Derived from Jongsma, Turner, Kirkbride and Jones (2019)

Appendix 2

Crude rate ratio results with Selten et al. (2003) included

Comparison of two rates

	1st group	2nd group
Numerator (e.g. number of events counted):	579	9962
Denominator (e.g. total person-years):	44113204	41950694

☐ Express result as 1:X

Test

Results

Group 1 Incidence rate	0.0001265
95% Confidence Interval	0.0001232 to 0.0001298
Group 2 Incidence rate	0.0002375
95% Confidence Interval	0.0002328 to 0.0002422
Incidence rate difference	-0.000111
95% Confidence Interval	-0.0001167 to -0.0001053
P-value	P < 0.0001
Incidence rate ratio	0.5326
95% Confidence Interval	0.5153 to 0.5504
P-value	P < 0.0001

Appendix 3

Crude rate ratio results with Selten et al. (2003) excluded

Comparison of two rates

	1st group	2nd group
Numerator (e.g. number of events counted):	270	522
Denominator (e.g. total person-years):	12678493	12515370

☐ Express result as 1:X

Test

Results

Group 1 Incidence rate	0.0000213
95% Confidence Interval	0.00001883 to 0.00002399
Group 2 Incidence rate	0.00004171
95% Confidence Interval	0.00003821 to 0.00004545
Incidence rate difference	-0.00002041
95% Confidence Interval	-0.00002479 to -0.00001603
P-value	P < 0.0001
Incidence rate ratio	0.5106
95% Confidence Interval	0.4392 to 0.5925
P-value	P < 0.0001