A question of (social) geography?

Mental health stigma and help-seeking behavior for depressive symptoms among individuals living in rural and urban areas: A literature review

Master Thesis

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Abstract

Background and Objective: The increasing prevalence of depressive disorders worldwide underlines the importance to ensure access to mental healthcare. Investigations on stigma as a key barrier for psychological help-seeking behavior among different living areas demonstrated inconsistent results. Therefore, this literature review aims to compare the perception of public and personal mental health stigma and formal and informal help-seeking behavior for depressive symptoms between rural and urban population. **Methods:** Relevant literature was identified by searching the three online databases PsychINFO, Scopus and ScienceDirect. 253 titles were reviewed resulting in twelve articles that met the inclusion criteria. For the analysis, study and participant characteristics, and results on mental health stigma and help-seeking behavior were investigated. As an additional analysis, rurality definitions of the included articles were explored. **Results:** Among the reviewed literature, variety between the rural and urban perception of public and personal mental health stigma were found. Among both living areas, young, highly educated women with own experiences with depression and a non-supportive environment reported higher public stigma. Furthermore, young men without personal experiences with depression reported higher self-stigma. Rural population was found to prefer informal help-seeking over formal help-seeking, urban population prefer a combination of formal and informal help-seeking. Analysis of rurality definitions revealed that most studies provide little information about the living location of participants and the assessment of rurality. **Discussion:** The main practical implication of this review is that anti-stigma interventions should educate adolescents, in particular young men, to change attitudes towards and knowledge about mental illness and their treatment. Future research could investigate and clarify the importance of rurality and urbanity on public and personal stigma. Moreover, this review underlined the importance of developing universal guidelines for classifying areas from urban to very remote to enable detailed comparison of different countries.

Keywords: stigma, help-seeking, depression, rural, urban, literature review

Table of contents

Introduction

According to the World Health Organisation (2001), mental illness affects one in four people among western countries. One of the most common mental disorders is depression. About 4.3% of the European population suffers from depressive disorders (WHO, 2020). Depression limits the ability of individuals to handle daily life's tasks including going to work. This disability produces high costs for the society (Trautmann et al., 2016) consisting of the direct costs such as psychological treatments, which are way lower than the indirect costs, associated with income losses due to work absence or early retirement (Bloom et al., 2011). This underlines the importance to ensure access to mental healthcare services and thereby fast psychological treatment and support. However, former research in rural and remote areas demonstrated that increasing availability and accessibility of mental health services is not sufficient in ensuring that people seek help for depressive symptoms (Jackson et al., 2007). Accordingly, socio-psychological factors need to be considered to understand help-seeking behavior for mental health issues.

Seeking help for mental problems

There are two types of help-seeking behaviors: Formal help-seeking encompasses receiving assistance from a licensed health professional such as a psychotherapist, and informal help-seeking, which is receiving assistance from the personal social environment such as family and friends (Rickwood & Thomas, 2012). Corresponding to informal help-seeking, searching for advice for emotional problems from clergy is also common (Sorgaard et al., 1996). Moreover, nowadays, the internet provides opportunities to seek help including formal and informal online support, and self-help options (Moock, 2014).

Seeking formal help online from health care professionals as well as informal help in form of forums and social media can offer support for psychological problems (Collin et al., 2011). Further, it has been demonstrated that online cognitive behavioral therapy can lead to a reduction in symptoms for several psychological disorders, like anxiety disorders and major depression (Hoseini & Zare, 2020). Online support offers several advantages over face-to-face support like increased anonymity and privacy (Gemert-Pijnen et al., 2018). Moreover, online support increases the accessibility to help, especially for rural population living in great distance to mental healthcare services.

Although via the internet, psychological help is accessible for a large range of people, Boyd et al. (2007) demonstrated that the rural value system can still hinder help-seeking behavior. They identified the beliefs that mental health issues are a sign of weakness and individuals should be self-reliant in solving their problems, which interfere with formal help-

seeking behavior. Furthermore, former research found that inhabitants of rural areas tend to regard themselves as responsible for their mental health and are thus less likely to seek formal help than their urban counterparts (Fuller et al., 2000; Judd et al, 2006). Further, rural population tend to prefer informal help among family and friends over mental healthcare services (Judd et al., 2006). Accordingly, the endorsement of different values and norms between rural and urban areas appear to lead to differences in help-seeking behavior for mental problems.

It has to be noted that rurality varies greatly across countries: Large countries such as Australia, Canada or the United States are largely characterized by vast geographical distances and low population density (Australia: 3 inhabitants per km^2; Canada: 4 inhabitants per km^2; United States: 35 inhabitants per km^2) (Rechel et al., 2016). In comparison, most European countries exhibit significant higher population densities such as the Netherlands with 497 inhabitants per km^2 or Germany with 229 inhabitants per km^2 (Rechel et al., 2016). It is therefore important that these differences in social proximity are considered when discussing rurality and its implications for help-seeking behavior.

Social differences between rural and urban areas

Several studies focused on differences in the social environment between rural and urban areas and the consequences for help-seeking behavior. An example is a study of Parr et al. (2004), who proposed the "rural paradox of proximity and distance". This paradox refers to rural community members as being physically distant but socially proximate, as they tend to be well-informed about other community members. The lower population density and higher social proximity encourage a stronger sense of belonging to the community (Judd et al., 2006). In urban communities, this relationship exists in the opposite direction, namely that community members are physically proximate but socially distant. Parr et al. (2004) argue that the social proximity of rural areas decreases privacy and increases gossiping networks, which has been demonstrated to act as a barrier for seeking help for depression in rural adolescents (Boyd et al., 2007). This is consistent with former research that found that treatment-seeking behavior in rural areas is associated with less anonymity (Judd et al., 2006), which might further increase gossiping and decrease the likelihood of seeking help. This lack of privacy and increased gossiping can lead to stigmatization of individuals with mental health issues and social exclusion (Parr et al., 2004).

In addition, rural population tend to have lower mental health literacy than population in cities (Griffith et al., 2009). Mental health literacy encompasses knowledge about mental disorders and the "ability to recognize, manage and prevent mental illness" (Furnham &

Swami, 2018, p. 1). Thus, individuals with increased mental health literacy are more likely to identify psychological problems in themselves and others (Handley et al., 2018), and more likely to be confident about where to seek help (David & Shann, 2012). Moreover, decreased mental health literacy has been demonstrated to increase stigmatization of individuals (Griffith et al., 2008) and might contribute to a higher stigma of mental illness among rural than among urban areas.

The impact of stigmatization on help-seeking behavior is supported by Aisbett et al. (2007), who demonstrated that perceived stigma is one of the key barriers for seeking mental health care. Accordingly, the fear of stigmatization in rural areas might lead to lower treatment-seeking behavior for mental problems in rural than in urban areas.

The role of stigma for help-seeking behavior

The term stigma is a social construct that refers to discrimination, stereotyping or status loss as a result of non-conformity of an individual to cultural norms (Byrne, 2000). Further, Corrigan (2004) distinguishes between public stigma and self-stigma. *Public* or *perceived stigma* involves the whole community and can take the form of labelling an individual based on a deviant characteristic and hence stigmatize this person. *Self-stigma* or *personal stigma* can be defined as internalizing public stigma resulting in disapproval of the own behavior and beliefs, which can lead to decreased self-esteem and social isolation (Latalova et al., 2014). According to former research, self-stigma of seeking psychological help mediates the relationship between public stigma and help-seeking attitudes (Stewart et al., 2015; Vogel et al., 2007). Moreover, Stewart et al. (2015) propose that public stigma is mainly influenced by the social structure an individual is living in, whereby self-stigma is influenced by cultural norms and values. As differences in the social structure and norms among the rural and urban population have been indicated by former research (Boyd et al., 2007; Parr et al., 2004), examining public and self-stigma between different regions might be relevant to understand help-seeking behavior.

State of the art of research about stigma and help-seeking behavior among rural and urban areas

Since stigma seems to play a major role in determining treatment-seeking, it was in the focus of research over the last decades. However, studies comparing the role of mental health stigma between rural and urban population demonstrate inconsistent results. On the one hand, research suggests that public and personal mental health stigma are higher among rural than among urban population (Hammer et al., 2013; Hoyt et al., 1997; Stewart et al., 2015; Ta et al., 2016). Moreover, it was demonstrated that rural population is less likely to seek formal

help from healthcare providers, but to prefer informal help (Fuller et al., 2000; Judd et al, 2006). On the other hand, some studies did not find differences in the perception of public and personal mental health stigma between different geographies (Dschaak & Juntunen, 2018), in the attitudes towards seeking help (Dschaak & Juntunen, 2018) and formal help-seeking behavior (Batterham et al., 2019).

To explain these findings, Dschaak and Juntunen (2018) argue that former research on stigma in rural and urban population included different samples, which might account for the inconsistent results. Moreover, the studies were conducted in countries that differ greatly in population structure and density, which probably influences rural life (Stewart et al., 2015; Ta et al., 2016). Further, it is claimed that the differentiation between rural and urban population on a dichotomous, population-size basis is too simple (Stewart et al., 2015). The presented inconsistencies in the literature emphasize the importance to investigate differences in mental health stigma among rural and urban areas. To understand possible differences, exploring predictors of stigma between rural and urban areas is relevant. Furthermore, inconsistencies in results on formal and informal help-seeking behavior among rural and urban individuals were demonstrated, which emphasizes the importance to inspect differences among regions and between regions more thoroughly. Moreover, the importance to investigate countries with comparable social geography is underlined.

The aim of this literature review

Considering the aforementioned inconsistencies in the literature, this literature review aims to investigate the role of stigma and help-seeking behavior among rural and urban areas more thoroughly. Moreover, this literature review focuses on individuals with depressive symptoms because depressive disorders are among the most common mental disorders in the western population (WHO, 2020). Additionally, by focusing on symptoms of one disorder it is aimed to increase the comparability of results among the included articles. Therefore, the following research question was developed. *Does the perception of mental health stigma and help-seeking behavior for depressive symptoms differ among individuals in urban and rural areas?*

For further differentiation, three sub-questions were developed: The first sub-question investigates differences in public and personal stigma: *Are there differences in public stigma and self-stigma towards seeking help for depressive symptoms among individuals in urban and rural areas?* Second, to investigate determinants that influence the perception of mental health stigma, which might account for possible differences between rural and urban individuals, the following sub-question is proposed: *Which factors influence public stigma*

and self-stigma among individuals with depressive symptoms in urban and rural areas? Third, inconsistencies in formal and informal help-seeking behavior among rural and urban population emphasize the importance of the further investigation, which is reflected in the third sub-question. *Are there differences in formal and informal help-seeking behavior for depressive symptoms within and between the urban and rural population?*

Since no review on this topic has been published yet, this literature review can act as guidance for future investigations. Examining the role of mental health stigma more thoroughly is of importance as it interferes with the treatment of individuals with depression and other mental disorders. New insights might help design suitable interventions to target people with depression in different social contexts for increasing their use of mental health services.

Methods

Search strategy

This literature review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). Three electronic databases were searched: PsychINFO, which is specialized in behavioral sciences and mental health, and the two interdisciplinary electronic databases Scopus and ScienceDirect. The search was conducted in September 2020. To find all relevant studies, the main search terms "depress*", "rural*", "urban*", "help-seeking" and "stigma*" were combined in all possible combinations using the Boolean expression "AND" (Table 1). Additionally, the related search terms "treatment*", "service*", "living*", "community*" and "geography*" were combined with the main search terms using the operator "OR". The complete search strings can be found in the Appendix (Appendix 1).

Table 1

Search terms

Main search term combined with AND	Related search term combined with OR
Depress*	
Rural*	Living*, community*, geography*
Urban*	
Stigma*	
Help-seeking	Treatment*, service*

Selection criteria and data extraction

The selection process was executed in five steps. First, studies found via the databases were screened for duplicates which were then removed. Next, titles and abstracts were screened for relevance. The remaining sources were investigated based on their eligibility for the current review by reading the full paper. Inclusion and exclusion criteria were used for the assessment of eligibility. The first inclusion criterion was that the study was published in/after the year 2000. This time frame was selected because of processes of re-urbanization of inner cities in western countries that started around the new millennium, changing social and economic structures in rural and urban areas (Europe: Buzar et al, 2006; U.S.: Fishman, 2005). Thus, the second criterion for inclusion is that the study was conducted with a sample from western culture. Other inclusion criteria were: 3) written in English, 4) conducted with rural and/or urban population, 5) including measures of depressive symptoms, 6) including

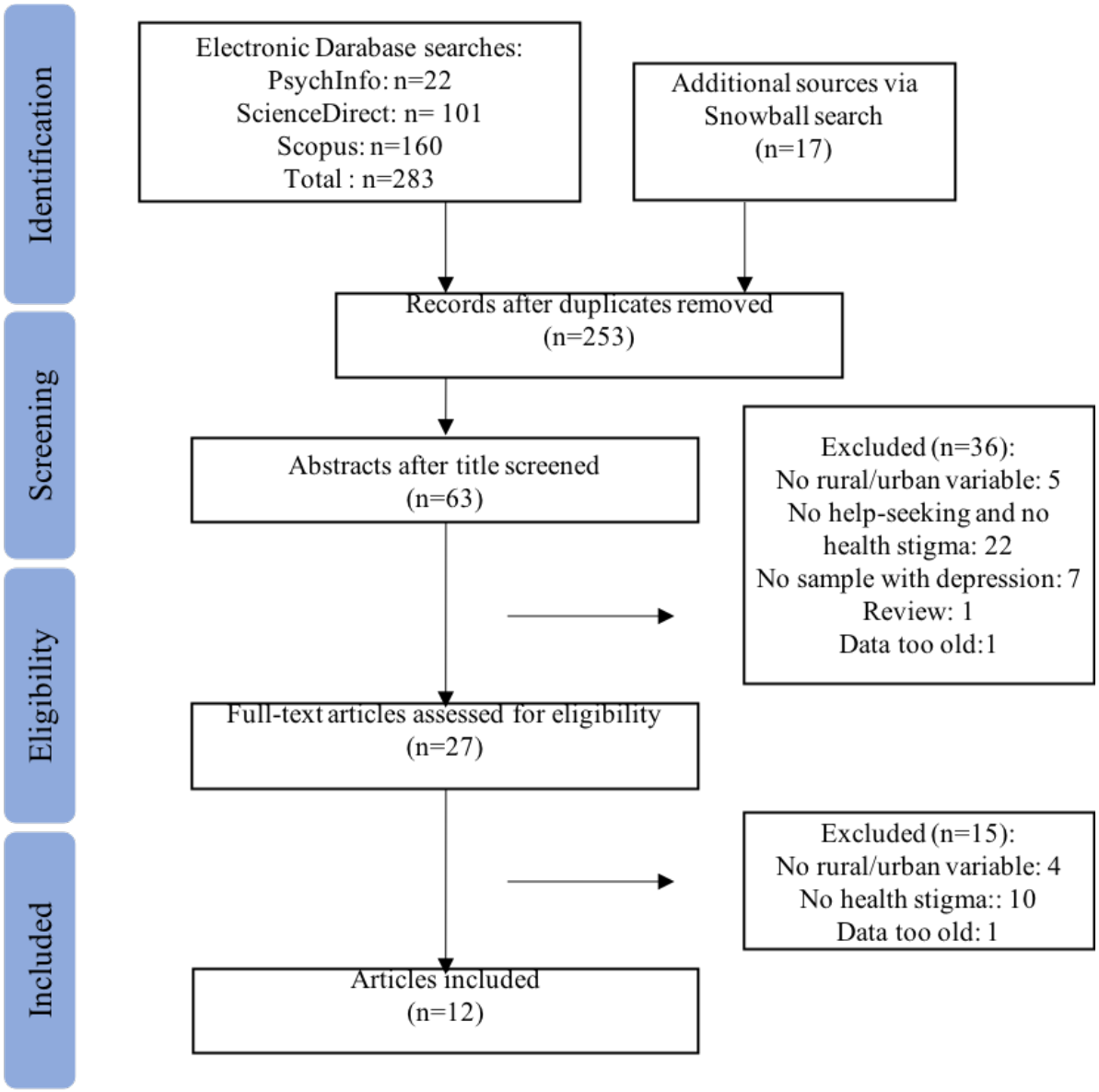
the construct of stigma and/or help-seeking behavior. Next, a snowballing search was applied to increase the number of relevant studies. This strategy encompasses the search of literature through reference lists or citations of relevant papers (Wohlin, 2014). Figure 1 displays the selection process in a decision tree according to the PRISMA guidelines (Moher et al., 2009).

After fully reading all included articles, relevant data for this review was extracted. Relevant data included: study characteristics (name of the authors, date and location of publication, sample size, method, and objective) and participant characteristics (presenting problem, place of residence, gender, and mean age). Moreover, to answer the research question, measures on perceived stigma, help-seeking behavior and key findings were collected. Lastly, data about the living location was extracted for additional analysis of rurality definitions.

The quality of the included sources was assessed by the author of this review. The assessment was based on the Effective Public Health Practice Project (EPHPP) Assessment Tool for Quantitative Studies (Effective Public Health Practice Project, n.d.) and the Critical Appraisal Skills Program (CASP) Qualitative Research Checklist (Oxford Centre for Triple Value Healthcare, n.d.). The quality is indicated among three categories namely high, moderate and low quality.

Figure 1

Decision tree of the selection process for this literature review



Results

Study characteristics

The study characteristics are displayed in Table 2. For this literature review, 12 studies were included. The studies were published between 2004 and 2020. Six studies were conducted in the USA, three in Australia, two in Canada and one in England. The sample size of the reviewed studies greatly varied from 23 to 2374. In eight studies a quantitative data collection was executed, whereas three executed qualitative and one mixed methods data collection. Lastly, the quality of the studies was assessed resulting in nine studies with moderate quality and three studies with high quality.

Participant characteristics

The participant characteristics are summarized in Table 3. Six reviewed studies measured depressive symptoms in a non-clinical sample, three included a diagnostic interview to identify depression and three included participants with a former diagnosed depressive disorder. Moreover, most studies (n= 8) also included participants with other disorders. Most frequently included are participants with anxiety disorders (n=7). Furthermore, different living areas were included: Three studies included a dichotomous differentiation between urban and rural participants, two studies differentiated also between participants living in rural areas adjacent to metropolitan regions. Five studies examined only a rural sample, one only an urban sample and one study investigated participants from rural and mid-sized communities. Overall, the percentage of women among the participants was higher than men ranging between 49% to 79.6%. Two exceptional studies examined only one gender, once male and once female. The average age in the reviewed studies varied greatly between the mean age of 14.34 to 68.4 years because two studies examined adolescents and one focused on the elderly.

Table 2

Study characteristics

Authors	Year	Location	Sample size	Method	Objective	Quality
[1] Batterham et al.	2019	Australia	2374	Quantitative	Investigate differences in the mental health service utilization between residents of rural, regional, and metropolitan areas of Australia in adults with a mental disorder.	Moderate
[2] Brenes et al.	2015	USA	478	Quantitative	Examine the barriers to seeking treatment for mental health perceived by rural older adults.	Moderate
[3] Brown et al.	2014	England	1698	Quantitative	Identify patterns of formal and informal help-seeking behavior of inhabitants of south London.	High
[4] Calear et al.	2010	Australia	1375	Quantitative	Investigate levels of personal and public depression stigma among adolescents in Australia and examine predictors of stigma.	Moderate
[5] Crumb et al.	2019	USA	53	Qualitative	Investigate mental illness stigma in a rural, low-income sample, who make use of mental healthcare services. Moreover, to identify favored attributes in mental healthcare providers.	High
[6] Deen et al.	2012	USA	267	Quantitative	Examine whether cognitive appraisals of help-seeking for depressive symptoms are related to the usage of mental health care in rural population.	Moderate

[7] Elliott & Larson	2004	USA	1948	Mixed methods	Identify health care needs, prior usage of healthcare, barriers to healthcare, and associated risk factors in rural adolescents.	Moderate
[8] Green et al.	2012	Australia	124	Quantitative	Examine the delay in help-seeking among rural Australians for anxiety and depressive disorders.	Moderate
[9] Herron et al	2020	Canada	23	Qualitative	Investigate informal help-seeking for mental problems among rural men and what being a healthy man means to them.	High
[10] Moskalenko et al.	2020	Canada	200	Quantitative	Investigate attitudinal, structural and ICBT specific barriers to internet-based cognitive behavioral therapy in rural and urban population.	Moderate
[11] Simmons et al.	2015	USA	1000	Quantitative	Investigate the level of public stigma and self-stigma in a rural female sample. Further, to comprehend factors associated with congruent and incongruent stigma.	Moderate
[12] Townley et al.	2016	USA	300	Quantitative	Investigate urban and rural differences in community participation, sense of community, mental health stigma, and perceptions of the neighborhood environment among individuals with a mental illness.	Moderate

Table 3

Participant characteristics

Authors	Presenting problem	% Residence	% Female	Mean age (SD) or age range (% of the sample)
[1] Batterham et al. (2019)	13.2% Depression 34.3% GAD 22.5% Social anxiety 8.1% Panic 17.5% PTSD	1249 Metropolitan 867 Regional 258 Rural	79.6%	18–35: 913 (38.9%) 36–55: 878 (37.4%) 56+: 582 (24.8%)
[2] Brenes et al. (2015)	75.3% Depressive and anxiety symptoms 24.7% No depressive and anxiety symptoms	100% Rural	77.4%	68.4 (7.0)
[3] Brown et al. (2014)	6.2% Neurotic disorder 10.9% Depression 4.2% GAD 2.8% Phobia 1.6% Other 74.3% No disorder	100% Urban	53.5%	16-25: 387 (22.8%) 26-40: 521 (30.7%) 41-55: 398 (23.4%) 56+: 304 (17.9%)
[4] Calear et al. (2010)	30% Depression 70% No depression	17% Rural 83% Urban	56%	14.34 (0.75)

[5] Crumb et al. (2019)	32.1% Depressive disorder 32.1% Anxiety Disorder 20.8% Multiple Disorders 7.5% Bipolar Disorder 1.9% Psychotic Disorder	100% Rural	77.4%	18-79
[6] Deen et al. (2012)	12% Depressive disorder 88% No depression	100% Rural	57%	45.4 (15.3)
[7] Elliott & Larson (2004)	43% Chronic health problems including depression 57% No health problem	100% Mid-size and rural	49%	15.5 (-)
[8] Green et al. (2012)	33.1% Depressive disorder 43.5% GAD 6.5% Panic 16.9% Social phobia	100% Rural	71%	53.38 (13.34)
[9] Herron et al (2020)	69.5% Depression 43% Anxiety 22% PTSD 17% Substance Use 13% Bipolar	100% Rural	0%	20–30: 2 (9%) 31–40: 8 (35%) 41–50: 3 (13%) 51–60: 4 (17%) 61 +: 6 (26%)

[10] Moskalenko et al. (2020)	35% Moderate depression or anxiety symptoms 65% No symptoms of depression or anxiety	50% Rural 50% Urban	72%	18-21: 16 (8%) 22-38: 73 (37%) 39-64: 89 (44%) 65-75: 22 (11%)
[11] Simmons et al. (2015)	15.7% Depression 84.3% No depression	20% Urban 40% Non-urban adjacent to urban 40% Non-urban nonadjacent to urban	100%	57.31 (16.09)
[12] Townley et al. (2016)	77% Mood disorder 43% Schizophrenia-spectrum Disorder	71% Urban 29% Rural	60%	46 (11.24)

Note. GAD= Generalized anxiety disorder; PTSD= Post-traumatic stress disorder

In the following, the relevant results to the three sub-questions are presented. Table 4 displays the measures and key results of the quantitative literature, whereas Table 5 provides an overview of the reviewed qualitative literature.

Are there differences in public stigma and self-stigma towards seeking help for depressive symptoms among individuals in urban and rural areas?

To answer the first sub-question, the results of five reviewed studies are considered ([4], [10], [11], [12]). First, Calear et al (2010) ([4]) compare public stigma and personal stigma of depression among Australian adolescents in rural and urban areas. Their results revealed that no significant differences could be found in the perception of public and personal stigma between the urban and rural respondents.

Second, Simmons et al. (2015) ([11]) aimed to explore the levels of public and self-stigma related to depression in urban, adjacent to urban, and rural women. They examined that the majority of participants from all three living areas indicated that both public and personal stigma are moderate. However, their results also display that low public and low personal stigma is mostly perceived by respondents living in rural areas, which is contradicting with the reviewed literature ([12]).

Townley et al. (2016) ([12]) examined urban and non-urban differences in individuals with serious mental illness with regards to community participation, mental health stigma and their sense of community. They found higher public mental health stigma in rural than in urban participants. In addition, Moskalenko et al (2020) ([10]) investigated self-stigma of seeking help for mental problems in adults among rural and urban areas. They found that rural respondents scored higher in self-stigma than their urban counterparts.

Which factors influence public stigma and self-stigma among individuals with depressive symptoms in urban and rural areas?

Five of the reviewed studies investigated factors that possibly influence mental health stigma in rural and urban regions ([4], [5], [9], [11], [12]). First, three reviewed studies investigated the social environment as an influential factor for the development of public mental health stigma in rural and urban areas ([5], [9], [12]). Crumb et al. (2019) ([5]) investigated public mental illness stigma in a sample of rural healthcare service users with low-income. Respondents describe a social environment that does not recognize mental illness as a serious health problem for which to seek help but as a condition that can be solved by pulling oneself together. Moreover, respondents report the stigmatized belief of their social environment that individuals act as if they had a mental disorder to avoid responsibility for their life. Furthermore, it is believed that God can heal mental disorders, and that mental

issues can be the result of disloyalty towards God. As a result, respondents report experiencing fear and shame for seeking help for mental problems.

Herron et al. (2020) ([9]) investigated with whom rural men talk about their mental problems. In line with former research, their interviews revealed that rural men experience a culture of gossiping, which hinders them to talk about their mental health problems because they fear to be stigmatized and judged negatively or as weak.

The results of Townley et al. (2016) ([12]) demonstrate that individuals with a serious mental illness living in urban centers reported less public mental health stigma and a stronger sense of community than in rural areas. Moreover, their results revealed higher community participation and perceived neighborhood quality among the urban than the rural respondents, that possibly decreases the perception of public mental health stigma. However, their study investigated correlations rather than causality. Consequently, no conclusions of causality of social structure on health stigma can be drawn.

Besides the social environment, Calear et al. (2010) ([4]) identified demographic predictors for public and personal depression stigma among rural and urban adolescents. Among both living areas, they identified that higher public stigma was predicted by female gender, increased levels of anxiety, having parents with depression and personal depression stigma. Higher self-stigma of depression was predicted by male gender, being younger, having no personal history of depression, no parents with depression, and public depression stigma. Thus, no significant differences in demographic predictors of stigma were found between rural and urban population.

In addition, Simmons et al (2015) ([11]) found that rural women with low self-stigma and high public stigma were younger, and had higher education levels. Moreover, these women were most likely to seek help in case of need. Consistent with these findings, they reported that older women with lower education levels perceived higher self- and lower public stigma.

Are there differences in formal and informal help-seeking behavior for depressive symptoms within and between the rural and urban population?

To answer this sub-question, the results of seven reviewed studies are considered ([1], [2], [6], [7], [8], [9], [10]). First, four studies investigated formal and informal help-seeking behavior among the rural population. As reported by Herron et al. (2020) ([9]), rural men with depression tend to seek help among informal networks, by mainly talking to their partner or friends about mental health issues. Fewer participants reported seeking professional help from

health services and mental health worker. Furthermore, Crumb et al. (2019) ([5]) found that an important source of informal help among rural regions is the church and god.

The preference of the rural population to seek informal help is in line with the study results of Brenes et al. (2015) ([2]). They examined that older, rural individuals with depression and anxiety questioned the helpfulness of professional psychological treatment and perceived a mistrust in mental healthcare services, which hindered them to seek help from mental health services.

These findings are in line with the results of Deen et al. (2012) ([6]), who examined formal help-seeking behavior for emotional problems in a rural setting. They demonstrated that medical health care services are used slightly more often for emotional problems than special mental health care services. Respondents expected that a general practitioner could help them better when being depressed than a counselor.

The lack of formal mental help-seeking behavior in the rural population was also investigated by Elliott and Larson (2004) ([7]). They examined health care service use in adolescents living in rural and mid-sized communities in the US and found that almost half of the participants reported not seeking professional help although they felt a need for it.

Second, formal and informal help-seeking behavior and sources of informal help-seeking behavior in the urban population was investigated by Brown et al. (2014) ([3]). They found that the majority of urban population with depressive symptoms sought both, formal and informal help. Most common sources of informal help encompassed friends and family. Only little participants sought informal help from a religious leader.

Two included studies directly compare help-seeking behavior in different living areas ([1], [8]). First, Green et al. (2012) ([8]). investigated the delay in treatment-seeking for anxiety and depressive disorders among the rural and regional population in Australia. Their results revealed that respondents from remote or very remote areas are about 19 times more likely to delay formal treatment seeking for depression by more than one year compared to regional areas.

These results are partly contradicting with the study result from Batterham et al. (2019) ([1]). They found no differences in formal help-seeking behavior from a general practitioner, social worker, hospital, psychiatrist, and general counselling between the rural and urban population. However, they found that psychologists were consulted 26% less often in rural than in urban areas.

Formal help-seeking online

In addition to traditional formal and informal help-seeking, Moskalenko et al. (2020) ([10]) investigated formal help-seeking online. More in detail, they examined intentions and perceived barriers to seeking treatment online via Internet-based cognitive behavioral therapy (ICBT) among the population from urban and rural living areas. Their results revealed no significant differences between rural and urban participants in intentions to seek treatment online.

Table 4

Quantitative measures on stigma, help-seeking behavior, and relevant findings

Authors and year	% Residence	Stigma measure		Help-seeking	Relevant findings
		Public	Self		
[1] Batterham et al. (2019)	52% Metropolitan 37% Regional 11% Rural	-	Personal stigma of suicide	Actual help-seeking	Except for mental health care utilization, there were no differences in service use, perceived need for psychological help, and in the reasons for not seeking help between urban and rural population. There were no significant differences in stigma between different living areas.
[2] Brenes et al. (2015)	100% Rural	Public stigma: embarrassment, what others would think, racial or cultural discrimination	-	Assessing barriers to getting help for anxiety and depression	The most salient barrier to seeking help from mental health care were personal beliefs. Especially the perception of mistrust in mental health providers, not believing in helpfulness of treatment, and not wanting to talk to a foreign person about personal issues, the perception of stigma and embarrassment. Higher age was associated with the perception of fewer barriers to seeking help for mental health, beliefs and stigma.

[3] Brown et al. (2014)	100% Urban	-	-	Use of formal and/or informal help Predictors of help-seeking	40% of participants with diagnosed disorder had sought formal help (three quarters also sought informal help). For depressive symptoms, the majority sought formal and informal help. Predictors of help-seeking were age and ethnic group.
[4] Calear et al. (2010)	17% Rural 83% Urban	Public depression stigma	Personal depression stigma	-	Overall, levels of perceived depression stigma were higher than levels of personal depression stigma. No significance of living area on stigma. Predictors of public depression stigma were being female, own experience with depression, higher levels of anxiety and personal depression stigma. Predictors of personal depression stigma were being male, younger, no history parents with depression, no own history of depression and perceived depression stigma.

[6] Deen et al. (2012)	100% Rural	Public stigma of seeking help	-	Service utilization	Cultural barriers (stigma, stoicism and anonymity) did not significantly distinguish between participants who sought specialty mental health care services and those who did not. Cognitive appraisals and depressive symptoms were predictive for help seeking from mental healthcare services. Perceived need and outcome expectancy may play in influencing the decision of where to seek help.
[8] Green et al. (2012)	100% Rural	Perceived mental health stigma	-	Treatment seeking history	Diagnosis of a depressive disorder was significantly associated with seeking treatment in the year of onset compared to the reference group, GAD. Population of remote or very remote areas were about 19 times more likely to delay seeking treatment t the extent of 1 year in comparison to people living in inner regional areas Current higher age and younger age of onset were most strongly associated with the delay to seek treatment

					Rurality and perceived stigma were not significant in predicting not seeking the help one needs. The most frequently endorsed reason was, ‘‘I preferred to manage myself’’.
[10] Moskalenko et al. (2020)	50% Rural 50% Urban	-	Self-stigma of help-seeking	Interest in using Internet-Based Cognitive Behavioral Therapy	High perceived need for mental healthcare, high perceived access to mental health care and high self-stigma of help seeking among rural and urban, Lower self-stigma of seeking help and perceived need for mental health treatment showed significantly greater interest in ICBT. Participants who reported self-stigma of seeking help showed significantly lower interest in ICBT.
[11] Simmons et al. (2015)	20% Urban 40% Non-urban adjacent to urban 40% Non-urban nonadjacent to urban	Public depression stigma	Personal depression stigma	-	Majority of participants in the study had congruent stigma: Indication of public and personal stigma to be low (14.2%), moderate (56.4%), or high (11.6%). Women with low personal but high public stigma were younger and had higher educational levels. They were the

					least likely not to seek or not to know where to seek mental health information
[12] Townley et al. (2016)	71% Urban 29% Non-urban	Mental health stigma	-	-	Higher community participation, perceived neighborhood quality, higher sense of community and lower mental health stigma in urban than rural areas.

Note. Empty cells are due to non-consideration of the variable in the displayed study

Table 5

Qualitative and mixed methods findings on stigma, help-seeking behavior, other relevant variables

Authors and year	% Residence	Relevant findings
[5] Crumb et al. (2019)	100% Rural	Negative views on mental health which might promote stigma encompasses that individuals fake mental disorder to avoid responsibility, that people get better themselves without treatment and that mental issues can be solved by god and might be the result of disloyalty. Experienced fear and shame with regards to seeking mental health: Fear to be judged negatively and be perceived as weak.
[7] Elliott & Larson (2004)	Mid-size and rural population	From quantitative research Five barriers to treatment seeking 1.Anxiety which included fear of what the doctor would do fear someone would see them, embarrassment, and concern that the parent would know. 2.Lack of access to that care, the lack of transportation, inability to pay for the care, not knowing where to go to receive the needed care, having no one with whom to go, and time. 3.Felt they could take care of the problem themselves without medical assistance. 4.Parents were not supportive of seeking care 5.Hopeless/helpless about health care From qualitative research 1.Cost of care and lack of insurance 2.Stigma of mental health, lack of information from where to get assistance and help for health condition 3. Extent of parental control 4.Confidentiality 5.Influence of athletic coaches
[9] Herron et al (2020)	100% Rural	Informal help-seeking in rural men:

	Majority of men wanted to talk about mental health issues, mainly with their intimate partners, family members and friends
	Experience of hard work and lack of employment in rural areas; culture of farming is competitive and isolated which hinders men to disclose to neighbors and family; gossip as barrier
	Belief that problems should be solved by oneself
	Barriers to developing a more inclusive community culture were gossip, isolation, shame, and fear when talking about community responses
	Describing a healthy men only some described hegemonic male values, overall diverse picture

Additional analysis: Rurality definition

Since no universal guidelines were used for indicating the degree of rurality in the included studies, this additional analysis is intended to compare the reviewed results in the light of different rurality definitions. As one study only included urban population ([3]) it is not considered for this analysis. Three reviewed articles did only report the country of measurement ([1], [4], [5]). Furthermore, three studies used an index or code to classify the investigated region ([8], [11], [12]). The remaining studies either indicted the state of measurement ([2], [7], [10]), the town where the study was conducted ([9]) or the population size and distance to the next metropolitan center ([6]). As an orientation, the estimated average of residents per square kilometer in the mentioned states or countries were added for orientation by the author of this literature review (Table 6).

Rural-Urban Classification systems. In the following, the three included classification systems are shortly introduced: According to the ASGC Remoteness classification for Australia, remote areas are characterized by limited accessibility of services, goods and opportunities for social interaction (Australian Institute of Health and Welfare Canberra, 2004). The difference between very remote areas is that this accessibility is even more limited in very remote areas than in remote ones. Thus, based on these accessibilities, an index score from 0 (high accessibility) to 15 (very restricted accessibility) is calculated.

Contrary to the Australian remoteness classification system, the American Urban Influence Code (UIC) classifies rural and remote areas according to their population size and their adjacency to the metro or micro areas (Economic Research Service, 2019). Thus, counties or cities are classified among 12 levels ranging from 1 (large metro area of over 1 million inhabitants) to 12 (Noncore not adjacent to metro or micro area, not containing a town of at least 2500 inhabitants).

Similar to the UIC, the USDA Rural-Urban Continuum Codes (RUCC) distinguishes nonmetropolitan counties by their adjacency to metro areas and also according to their urbanization (Economic Research Service, 2019). This classification system consists of three metropolitan categories from 1 (Counties in metro areas of one million inhabitants or more) to 3 and six nonmetropolitan categories from 4 to 9 (Rural or less than 2500 urban inhabitants, non-adjacent to the metro area). To sum up, the Australian system considers the accessibility of goods and services to assess rurality, whereas the American classification systems evaluate the adjacency to metro areas and population size. However, the American systems differ in their classification categories for identifying urbanity and rurality.

Rurality definitions in the reviewed articles. Based on the information provided in some of the articles, differences in the included rural samples and several possible implications for results can be derived. First, Herron et al. (2020) ([9]) and Deen et al. (2012) ([6]) included population from small towns of about 48.000 and 5.500 inhabitants, which are described as rural by the authors. Moreover, Simmons et al. (2015) ([11]) classified their eight included counties according to the UIC and identified two urban and eight rural counties in Kentucky. Only two reviewed studies included remote and very remote population according to a classification system. First, Green et al. (2016) ([8]) used the ASGC Remoteness classification for Australia to classify their population. Their results revealed the importance of attitudinal over structural barriers to treatment-seeking regardless of living area, which might be important to consider in the light of a remote sample. Second, Townley et al. (2016) ([12]) classified the living situation of their sample among two levels: First, they classified the block participants lived in according to the US Census definition of urbanity based on the population density of the living block and surrounding blocks (US Census Bureau, 2010). Next, the county of residence was classified with the Rural-Urban Continuum Codes (RUCC), for classifying urban and rural counties. Townley et al. (2016) ([12]) reported a higher sense of community among urban than among rural participants, which was contradicting with former research. Considering the high degree of remoteness and thus probable large distance to others might help understand these findings.

Overall, it can be stated that only a few studies reported a detailed description of the living area of participants and classified it according to a rurality classification system. This lack of reporting impedes further detailed comparison. Additionally, the comparison is hindered by differences of measures between the classification systems. The implications of these findings are discussed in the following.

Table 6

Information on the location provided in the reviewed studies

Authors	Location	% Rural sample included	Average residents per km^2	Inhabitants (city)	Distance to next metropolitan area	Measure of Rurality/ Urbanity
[1] Batterham et al. (2019)	Australia	11% Rural	3	-	-	-
[2] Brenes et al. (2015)	North Carolina, USA	100% Rural	156	-	-	-
[4] Calear et al. (2010)	Australia	17% Rural	3	-	-	-
[5] Crumb et al. (2019)	USA	100% Rural	35	-	-	-
[6] Deen et al. (2012)	Mid-southern USA	100% Rural	-	2012: <5500	45 – 120 min	-
[7] Elliott & Larson (2004)	St. Louis County, Minnesota, USA	100% Mid-size and rural	20	-	-	-
[8] Green et al. (2012)	North South Wales, Australia	11.3% Remote and very remote	8.64	-	-	ASGC Remoteness Areas

[9] Herron et al (2020)	Brandon, Manitoba, Canada	100% Rural	-	2016: 48.859	200km	-
[10] Moskalenko et al. (2020)	Saskatchew, Canada	50% Rural	1.8	-	-	-
[11] Simmons et al. (2015)	10 counties in Western Kentucky, USA	40% Non-urban adjacent to urban 40% Non-urban nonadjacent to urban	39	-	-	Urban influence codes (UICs)
[12] Townley et al. (2016)	USA	29% Rural block 31% non-urban county 21% in both	35	-	-	1.US Census definition of urbanicity for defining block 2.USDA Rural-Urban Continuum Codes (RUCC) for defining county

Note. Empty cells are due to no information on the variable in the study

Discussion

Interpretation of results

This literature review aimed to examine differences in mental health stigma and help-seeking behavior among individuals with depressive symptoms living in rural and urban areas. More specifically, it aimed to answer the following research question. *Does the perception of mental health stigma and help-seeking behavior for depressive symptoms differ among individuals in urban and rural areas?* Results of this literature review revealed inconsistent results concerning the perception of mental health stigma between rural and areas. Public and personal stigma was predicted by demographic variables that did not differ between rural and urban areas. Moreover, the social environment seems to negatively influence public stigma in rural areas. Lastly, formal and informal help-seeking between rural and urban population differed in that rural population tend to prefer informal help, whereas urban population tend to prefer a combination of formal and informal help for mental problems. To explain these findings in detail, the results on the three sub-questions are discussed.

Are there differences in public stigma and self-stigma towards seeking help for depressive symptoms among individuals in urban and rural areas?

Inconsistencies in the perception of public stigma and self-stigma among the rural and urban population were found in the reviewed literature. Accordingly, no clear conclusions can be drawn concerning differences in the perception of the stigma of help-seeking behavior for depressive symptoms among different geographies.

The inconsistencies in the perception of public and personal stigma among rural and urban areas are most likely to be explained by the different measures used for mental health stigma. The included measures of stigma encompassed stigma of psychological help-seeking behavior ([10]), depression stigma ([4], [11]) and mental health stigma in general ([12]). As different aspects of stigma were measured, this might impact the comparability. Furthermore, different samples were examined, namely adolescents ([4]) and adults ([10], [11], |12]). As younger participants seem to perceive higher stigma ([4]), this factor is important to consider. Lastly, participants differed in terms of how rural they lived, varying from approximately 1.8 inhabitants per km^2 ([10]) to approximately 39 inhabitants per km^2 ([11]), which probably also impacts the development and perception of stigma.

A last possible explanation might be that the perception of public and self-stigma towards seeking psychological help for depressive symptoms between rural and urban areas is

not as different as former research suggested. Thus, other factors than the living area might be more determining for the development of public and self-stigma.

Which factors influence public stigma and self-stigma among individuals with depressive symptoms in urban and rural areas?

Main findings demonstrate that among rural and urban areas, higher public stigma in individuals with depressive symptoms is predicted by being female ([4]), being younger ([11]), having an own history of depression ([4]), increased educational level ([4]), and by a non-supportive social environment ([5], [9], [12]). The increased perception of public stigma in women might be explained by increased awareness and knowledge about the disorder (Griffith et al., 2008; Jorm & Wright, 2009), caused by a higher prevalence of depressive disorders among women than among men (Abate, 2013). Moreover, higher self-stigma was found among young men without a personal history of depressive symptoms ([4]). The higher perceived personal stigma among young men might be explained by men being less tolerant towards symptoms of depression due to no or little personal experience with it (Sheffield et al., 2004). Having no personal experience with depression and thus decreased depression literacy was identified as a predictor for higher personal stigma by former research (Griffith et al., 2008).

In addition, the importance of the social environment on influencing public stigma was underlined in rural areas, where non-recognition of mental illness ([5]), regarding mental illness as a punishment from God ([5]), a culture of gossiping ([9]) and low community participation ([12]) might enhance this perception. The finding that increased community participation and neighborhood quality possibly decrease public stigma ([12]) is confirmed by former research finding that higher levels of social support are associated with lower levels of public stigma (Hoyt et al. 1997). Not recognizing mental illness or regarding mental illness as a punishment from God both indicate little familiarity and knowledge about depression. This is in line with former research demonstrating that rural population tend to have lower mental health literacy than population in cities (Griffith et al., 2009).This lack of depression literacy in rural areas is likely to increase further prejudices towards mentally ill (Corrigan et al., 2001), which might lead to increased gossiping and thus stigmatization.

Overall, no differences in demographic predictors for public and self-stigma between rural and urban population could be found. However, the depression literacy of the social environment seems to be important for perceived stigma, especially among rural areas. Accordingly, demographic variables and mental health literacy seem to be determining for public and self-stigma.

Are there differences in formal and informal help-seeking behavior for depressive symptoms within and between the urban and rural population?

Comparison of the reviewed literature revealed that rural and remote population tend to prefer informal help-seeking from partners ([9]), friends ([9]) and clergy ([5]), and tend to delay formal help-seeking ([8]). Urban population tend to prefer a combination of seeking formal help from health care providers and informal help from friends and family ([3]). Furthermore, no differences in intentions to seek formal help online could be found between rural and urban population ([9]).

An explanation for differences in formal help-seeking behavior among rural and urban individuals might be the endorsement of different values and norms. Examples reported by rural respondents are the importance of self-reliance (Boyd et al., 2007), regarding mental disorders as weakness and being responsible for one's psychological health (Judd et al, 2006). Another aspect that is hindering help-seeking from psychological services in rural areas is that respondents questioned the helpfulness of mental healthcare services [2] [6]. As indicated by former research, believing in the helpfulness of a healthcare provider predicts its use (Komiti et al., 2006) and is thus important to consider for future interventions.

Furthermore, the clergy was identified as an important source of informal help among the rural, but not among the urban population. Prior research indicates that rural population in the US tend to be more religious than the urban population (Braun & Maghri, 2004) and tend to seek psychological help from clergy (Wang et al., 2003). Weaver et al. (2019) found that depressive individuals from rural regions were receptive for church-based mental health interventions, which might be an effective way to increase help-seeking in rural and remote areas.

Further, online-based cognitive behavioral therapy (ICBT) is another possibility of treatment seeking among rural and urban population. In addition to the findings of this review ([10]), former research suggested that rurality does not negatively affect the uptake of or adherence to online-based cognitive therapy for depressive disorders (Vallury et al., 2015). Thus, online therapy might offer new possibilities to ensure access to mental healthcare by overcoming barriers in rural and remote areas.

Strengths and Limitations

This literature review is the first review on differences in the urban and rural population with regards to mental health stigma and help-seeking behavior for depressive symptoms. As depressive disorder are increasingly common (WHO, 2020), it is of importance to understand how individuals with depressive symptoms seek help and what might hinder

them from seeking help. Other strengths of the thesis are 1) three online databases were extensively searched to find all relevant sources and 2), this review was administered according to the PRISMA guidelines for literature reviews (Moher et al., 2009), which ensures transparency of the research process.

Still, there are some limitations to consider when interpreting the results of this review. A first limitation is that studies differed in stigma measures including assessment for depression stigma, the stigma of help-seeking behavior and mental health stigma in general which might hinder comparability. Still, studies were included as literature on stigma perceived by individuals with depressive symptoms in rural and urban areas is limited and as studies fulfilled inclusion criteria. Also contributing to the difficulty of comparing studies is the reporting of the living area. Most studies did not include a detailed assessment of the living area of participants but only included the differentiation between rural and urban. However, this dichotomous differentiation might be too broad to represent nuanced differences between living areas. Moreover, in most studies, no specific place of residence was provided, which limits the possibility of a detailed comparison between sources.

Another limitation of the current review is that the included studies investigating rurality were conducted in the USA, Canada and Australia and thus only include some of the largest western countries. Due to a large size and thus greater distances between residential areas, rurality in these three countries might not be comparable to rurality in other western countries such as European states. Consequently, the results of this review might not be generalizable to smaller countries.

Another aspect that might affect the quality of the review is that the quality of most included studies was assessed as moderate, which means that one component of an included study was assessed as weak in quality. Reasons for a weak assessment were, for example, non-verified measurement instruments, a non-representative sample or little response rates. Further, the quality was assessed only by the author of the review. Thus, subjectivity among the assessment cannot be ruled out.

Practical implications and future research

Despite these limitations, this literature review is the first to compare rural and urban areas concerning mental health stigma and help-seeking behavior for depressive symptoms. The results of this literature review demonstrate that future stigma-prevention interventions should target adolescents, as they are most likely to perceive public and self-stigma ([4]). Targeting public stigma of mental disorders is of importance and should continue to be the focus of global campaigns. However, public stigma is difficult to change, which is why more

practical implications could be to target self-stigma among adolescents, and especially among men. As decreased mental health literacy seem to promote self-stigma of depression (Griffith et al., 2008), future interventions should focus on changing attitudes by increasing knowledge about mental illnesses and its treatment possibilities in both, rural and urban areas. Investigations on anti-stigma campaigns revealed that negative attitudes of adolescents towards mental disorders could be changed with education (Corrigan et al., 2012). Thus, incorporating education about mental illnesses and their treatment possibilities into school's curriculum might be beneficial. Further, results of this literature review revealed that rural adults tend to question the helpfulness of mental health care services ([2], [6]). Thus, also for adults, it is important to further enhance the knowledge about psychological treatment and its effectiveness for mental illness, especially in rural areas.

Further, based on the results of this literature review, directions for future research can be derived. First, future research could investigate and clarify the importance of rurality and urbanity on public and personal stigma. As results of this review indicate that demographic variables and mental health literacy are most predictive of public and self-stigma, there is a need for further investigations. Second, this review underlines the importance of developing universal guidelines for classifying areas from urban to very remote. Making use of a classification system that is used universally would enable detailed comparison of different countries. Lastly, since this review focused on rural regions of large-sized western countries (Australia, USA, Canada), future research might execute similar comparison among smaller western states to examine possible differences.

Conclusion

This literature review sought to examine differences in stigma and help-seeking behavior among the rural and urban population with depressive symptoms in western countries. Results revealed no clear differences in the perception of public and self-stigma among rural and urban areas. Public stigma is highest among young, highly educated women, who have experienced depressive symptoms in themselves and who have a non-supportive social environment. Personal stigma is highest among young men with no own experiences regarding depressive symptoms and little mental health literacy. Furthermore, the reviewed literature revealed that the rural population is more likely to seek informal help, whereas the urban population tend to prefer a combination of formal and informal sources of help. To increase the comparability of results, future research should develop universal guidelines for classifying geographies.

References

Abate, K. (2013). Gender disparity in prevalence of depression among patient population: A systematic review. *Ethiopian Journal of Health Sciences*, *23*(3). https://doi.org/10.4314/ejhs.v23i3.11

Aisbett, D., Boyd, C., Francis, K. J., Newnham, K., & Newnham, K. (2007). Understanding barriers to mental health service utilization for adolescents in rural Australia. Rural and Remote Health, 7(624), 1–10.

Australian Institute of Health and Welfare Canberra. (2004). *Rural, regional and remote health- A guide to remoteness classifications.* Rural Health Series Number 4. https://www.aihw.gov.au/getmedia/9c84bb1c-3ccb-4144-a6dd-13d00ad0fa2b/rrrh-gtrc.pdf.aspx?inline=true

Batterham, P. J., Kazan, D., Banfield, M., & Brown, K. (2019). Differences in mental health service use between urban and rural areas of Australia. *Australian Psychologist*, *55*(4), 327-335. https://doi.org/10.1111/ap.12449

Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A.Z., & Weinstein, C. (2011). The Global Economic Burden of Noncommunicable Diseases. Geneva: World Economic Forum.

Bonabi, H., Müller, M., Ajdacic-Gross, V., Eisele, J., Rodgers, S., Seifritz, E., Rössler, W., & Rüsch, N. (2016). Mental health literacy, attitudes to help seeking, and perceived need as predictors of mental health service use. *The Journal of Nervous and Mental Disease*, *204*(4), 321-324. https://doi.org/10.1097/nmd.0000000000000488

Boyd, C., Francis, K., Aisbett, D., Newnham, K., Sewell, J., Dawes, G., & Nurse, S. (2007). Australian rural adolescents' experiences of accessing psychological help for a mental health problem. Australian Journal of Rural Health, 15(3), 196-200. https://doi.org/10.1111/j.1440-1584.2007.00884.x

Braun, B., & Maghri, J. R. (2004). Rural families speak: Faith, resiliency, and life satisfaction among low-income mothers. Michigan Family Review, 8, 19–34.

Brenes, G. A., Danhauer, S. C., Lyles, M. F., Hogan, P. E., & Miller, M. E. (2015). Barriers to mental health treatment in rural older adults. The American Journal of Geriatric Psychiatry, 23(11), 1172-1178. https://doi.org/10.1016/j.jagp.2015.06.002

Brown, J. S., Evans-Lacko, S., Aschan, L., Henderson, M. J., Hatch, S. L., & Hotopf, M. (2014). Seeking informal and formal help for mental health problems in the community:

A secondary analysis from a psychiatric morbidity survey in south London. BMC Psychiatry, 14(1). https://doi.org/10.1186/s12888-014-0275-y

Buzar, S., Ogden, P., Hall, R., Haase, A., Kabisch, S., & Steinfiihrer, A. (2007). Splintering urban populations: Emergent landscapes of Reurbanisation in four European cities. *Urban Studies*, *44*(4), 651-677. https://doi.org/10.1080/00420980601185544

Byrne, P. (2000). Stigma of mental illness and ways of diminishing it. *Advances in Psychiatric Treatment*, *6*(1), 65-72. https://doi.org/10.1192/apt.6.1.65

Calear, A. L., Griffiths, K. M., & Christensen, H. (2011). Personal and perceived depression stigma in Australian adolescents: Magnitude and predictors. *Journal of Affective Disorders*, *129*(1-3), 104-108. https://doi.org/10.1016/j.jad.2010.08.019

Collin, P. J., Metcalf, A. T., Stephens-Reicher, J. C., Blanchard, M. E., Herrman, H. E., Rahilly, K., & Burns, J. M. (2011). ReachOut.com: The role of an online service for promoting help-seeking in young people. *Advances in Mental Health*, *10*(1), 39-51. https://doi.org/10.5172/jamh.2011.10.1.39

Corrigan, P. W., Edwards, A. B., Green, A., Diwan, S. L., & Penn, D. L. (2001). Prejudice, social distance, and familiarity with mental illness. *Schizophrenia Bulletin*, *27*(2), 219-225. https://doi.org/10.1093/oxfordjournals.schbul.a006868

Corrigan, P. (2004). How stigma interferes with mental health care. American Psychologist, 59, 614–625. http://dx.doi.org/10.1037/0003-066X

Crumb, L., Mingo, T. M., & Crowe, A. (2019). "Get over it and move on": The impact of mental illness stigma in rural, low-income United States populations. *Mental Health & Prevention*, *13*, 143-148. https://doi.org/10.1016/j.mhp.2019.01.010

David, P., & Shann, C. (2012). Rural Australians' mental health literacy: Identifying and addressing their knowledge and attitudes. *Journal of Community Medicine & Health Education*, *02*(04). https://doi.org/10.4172/jcmhe.1000139

Deen, T. L., Bridges, A. J., McGahan, T. C., & Andrews III, A. R. (2011). Cognitive appraisals of specialty mental health services and their relation to mental health service utilization in the rural population. *The Journal of Rural Health*, *28*(2), 142-151. https://doi.org/10.1111/j.1748-0361.2011.00375.x

Depression. (2020, October 18). WHO/Europe. https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/areas-of-work/depression

Dschaak, Z. A., & Juntunen, C. L. (2018). Stigma, substance use, and help-seeking attitudes among rural and urban individuals. *Journal of Rural Mental Health*, *42*(3-4), 184-195. https://doi.org/10.1037/rmh0000097

Economic Research Service. (2019). Rural-Urban Continuum Codes. https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/

Economic Research Service. (2019). Urban Influence Codes. https://www.ers.usda.gov/data-products/urban-influence-codes/documentation.aspx

Effective Public Health Practice Project (EPHPP). (n.d.). Quality Assessment Tool for Quantitative Studies Dictionary. Canadian Health Care. https://www.ephpp.ca/PDF/QADictionary_dec2009.pdf

ELLIOTT, B., & LARSON, J. (2004). Adolescents in mid-sized and rural communities: Foregone care, perceived barriers, and risk factors. *Journal of Adolescent Health*, *35*(4), 303-309. https://doi.org/10.1016/s1054-139x(03)00534-2

European Commission: European citizens' digital health literacy survey. Flash Eurobarometer 404. 2014. http://ec.europa.eu/public_opinion/flash/fl_404_en.pdf. Accessed 04 Apr 2016.

Fishman, R. (2005). Longer view: The fifth migration. *Journal of the American Planning Association*, *71*(4), 357-366. https://doi.org/10.1080/01944360508976706

Fuller, J., Edwards, J., Procter, N., & Moss, J. (2000). How definition of mental health problems can influence help seeking in rural and remote communities. Australian Journal of Rural Health, 8, 148–153.

Furnham, A., & Swami, V. (2018). Mental health literacy: A review of what it is and why it matters. International Perspectives in Psychology: Research, Practice, Consultation, 7(4), 240-257. https://doi.org/10.1037/ipp0000094

Gemert-Pijnen, L. V., Kelders, S. M., Kip, H., & Sanderman, R. (2018). EHealth research, theory and development: A multi-disciplinary approach. Routledge.

Green, A. C., Hunt, C., & Stain, H. J. (2011). The delay between symptom onset and seeking professional treatment for anxiety and depressive disorders in a rural Australian sample. *Social Psychiatry and Psychiatric Epidemiology*, *47*(9), 1475-1487. https://doi.org/10.1007/s00127-011-0453-x

Griffiths, K. M., Christensen, H., & Jorm, A. F. (2008). Predictors of depression stigma. *BMC Psychiatry*, *8*(1). https://doi.org/10.1186/1471-244x-8-25

Griffiths, K. M., Christensen, H., & Jorm, A. F. (2009). Mental health literacy as a function of remoteness of residence: An Australian national study. *BMC Public Health*, *9*(1). https://doi.org/10.1186/1471-2458-9-92

Hammer, J. H., Vogel, D. L., & Heimerdinger-Edwards, S. R. (2013). Men's help seeking: Examination of differences across community size, education, and income. Psychology of Men & Masculinity, 14, 65–75. http://dx.doi.org/10.1037/a0026813

Handley, T. E., Lewin, T. J., Perkins, D., & Kelly, B. (2018). Self-recognition of mental health problems in a rural Australian sample. Australian Journal of Rural Health, 26(3), 173-180. https://doi.org/10.1111/ajr.12406

Herron, R. V., Ahmadu, M., Allan, J. A., Waddell, C. M., & Roger, K. (2020). "Talk about it:" changing masculinities and mental health in rural places? *Social Science & Medicine*, *258*, 113099. https://doi.org/10.1016/j.socscimed.2020.113099

Hoseini, E., & Zare, F. (2020). Internet-delivered cognitive behavioral therapy for major depression and anxiety disorders. *Critical Comments in Biomedicine*. https://doi.org/10.18502/ccb.v1i2.2892

Hoyt, D. R., Conger, R. D., Valde, J. G., & Weihs, K. (1997). Psychological Distress and Help Seeking in Rural America. American Journal of Community Psychology, 25(4), 449-470. doi:10.1023/a:1024655521619

Jackson, H., Judd, F., Komiti, A., Fraser, C., Murray, G., Robins, G., Pattison, P., & Wearing, A. (2007). Mental health problems in rural contexts: What are the barriers to seeking help from professional providers? *Australian Psychologist*, *42*(2), 147-160. https://doi.org/10.1080/00050060701299532

Jorm, A. F., & Wright, A. (2008). Influences on young people's stigmatising attitudes towards peers with mental disorders: National survey of young Australians and their parents. British Journal of Psychiatry, 192(2), 144 149. https://doi.org/10.1192/bjp.bp.107.039404

Judd, F., Jackson, H., Komiti, A., Murray, G., Fraser, C., Grieve, A., & Gomez, R. (2006). Help-seeking by rural residents for mental health problems: The importance of agrarian values. Australian & New Zealand Journal of Psychiatry, 40(9), 769-776. https://doi.org/10.1080/j.1440-1614.2006.01882.x

Komiti, A., Judd, F., & Jackson, H. (2006). The influence of stigma and attitudes on seeking help from a GP for mental health problems. *Social Psychiatry and Psychiatric* Epidemiology, 41(9), 738-745. https://doi.org/10.1007/s00127-006-0089-4

Latalova, K., Kamaradova, D., & Prasko, J. (2014). Perspectives on perceived stigma and self-stigma in adult male patients with depression. Neuropsychiatric Disease and Treatment, 1399. https://doi.org/10.2147/ndt.s54081

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ*, *339*(jul21 1), b2535-b2535. https://doi.org/10.1136/bmj.b2535

Moock, J. (2014). Support from the internet for individuals with mental disorders: Advantages and disadvantages of E-Mental health service delivery. *Frontiers in Public Health*, *2*. https://doi.org/10.3389/fpubh.2014.00065

Moskalenko, M. Y., Hadjistavropoulos, H. D., & Katapally, T. R. (2020). Barriers to patient interest in internet-based cognitive behavioral therapy: Informing e-Health policies through quantitative analysis. *Health Policy and Technology*, *9*(2), 139-145. https://doi.org/10.1016/j.hlpt.2020.04.004

Oxford Centre for Triple Value Healthcare. (n.d.). CASP Checklist: 10 questions to help you make sense of a Qualitative research. CASP - Critical Appraisal Skills Programme. https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf

Parr, H., Philo, C., & Burns, N. (2004). Social geographies of rural mental health: Experiencing inclusions and exclusions. *Transactions of the Institute of British Geographers*, *29*(4), 401-419. https://doi.org/10.1111/j.0020-2754.2004.00138.x

Rechel, B., Džakula, A., Duran, A., Fattore, G., Edwards, N., Grignon, M., Haas, M., Habicht, T., Marchildon, G. P., Moreno, A., Ricciardi, W., Vaughan, L., & Smith, T. A. (2016). Hospitals in rural or remote areas: An exploratory review of policies in 8 high-income countries. Health Policy, 120(7), 758-769. https://doi.org/10.1016/j.healthpol.2016.05.011

Rickwood, D., & Thomas. (2012). Conceptual measurement framework for help-seeking for mental health problems. Psychology Research and Behavior Management, 173. https://doi.org/10.2147/prbm.s38707

Rost, K., Smith, G. R., & Taylor, J. L. (1993). Rural-urban differences in stigma and the use of care for depressive disorders. *The Journal of Rural Health*, *9*(1), 57-62. https://doi.org/10.1111/j.1748-0361.1993.tb00495.x

Simmons, L. A., Yang, N. Y., Wu, Q., Bush, H. M., & Crofford, L. J. (2015). Public and personal depression stigma in a rural American female sample. *Archives of Psychiatric Nursing*, *29*(6), 407-412. https://doi.org/10.1016/j.apnu.2015.06.015

Sorgaard, K. W., Sorensen, T., Sandanger, J., Ingebrigtsen, G., & Dalgard, O. S. (1996). Religiosity and help-seeking in a rural and an urban area. Social Psychiatry and Psychiatric Epidemiology, 31(3-4), 180-185. https://doi.org/10.1007/bf00785765

Staniford, A. K., Dollard, M. F., & Guerin, B. (2009).Stress and help-seeking for drought-stricken citrus growers in the Riverland of South Australia. The Australian Journal of Rural Health, 17, 147–154.http://dx.doi.org/10.1111/j.1440-1584.2009.01059.x

Stewart, H., Jameson, J. P., & Curtin, L. (2015). The relationship between stigma and self-reported willingness to use mental health services among rural and urban older adults. *Psychological Services*, *12*(2), 141-148. https://doi.org/10.1037/a0038651

Ta, T. M., Zieger, A., Schomerus, G., Cao, T. D., Dettling, M., Do, X. T., Mungee, A., Diefenbacher, A., Angermeyer, M. C., & Hahn, E. (2016). Influence of urbanity on perception of mental illness stigma: A population based study in urban and rural Hanoi, Vietnam. International Journal of Social Psychiatry, 62(8), 685-695. https://doi.org/10.1177/0020764016670430

Townley, G., Brusilovskiy, E., & Salzer, M. S. (2017). Urban and non-urban differences in community living and participation among individuals with serious mental illnesses. *Social Science & Medicine*, *177*, 223-230. https://doi.org/10.1016/j.socscimed.2017.01.058

Trautmann, S., Rehm, J., & Wittchen, H. (2016). The economic costs of mental disorders. EMBO reports, 17(9), 1245-1249. https://doi.org/10.15252/embr.201642951

Vallury, K. D., Jones, M., & Oosterbroek, C. (2015). Computerized cognitive behavior therapy for anxiety and depression in rural areas: A systematic review. Journal of Medical Internet Research, 17(6), e139. https://doi.org/10.2196/jmir.4145

Vogel, D. L., Wade, N. G., & Hackler, S. (2007). Perceived public stigma and the willingness to seek counseling: The mediating role of self-stigma and attitudes toward counseling. Journal of Counseling Psychology, 54, 40–50. http://dx.doi.org/10.1037/0022-0167.54.1.40

Wang, P. S., Berglund, P. A., & Kessler, R. C. (2003). Patterns and correlates of contacting clergy for mental disorders in the United States. Health Services Research, 38(2), 647-673. https://doi.org/10.1111/1475-6773.00138

Weaver, A., Himle, J., Elliott, M., Hahn, J., & Bybee, D. (2019). Rural residents' depressive symptoms and help-seeking preferences: Opportunities for church-based intervention development. Journal of Religion and Health, 58(5), 1661-1671. https://doi.org/10.1007/s10943-019-00807-9

Wohlin, C. (2014). Guidelines for snowballing in systematic literature studies and a replication in software engineering. Proceedings of the 18th International Conference

World Health Organisation. (2001). The world health report 2001 - Mental Health: New Understanding, New Hope. Retrieved 27 September 2020 from: https://www.who.int/whr/2001/en/

World Health Organization. (2020, January 30). Depression. WHO | World Health Organization. https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/areas-of-work/depression

Appendix

Appendix A. The complete search strings

1. **PsychINFO**

1 TI (depress*)

2 TI (rural* OR living* OR community* OR geograph*)

3 TI (urban* OR living* OR community* OR geograph*)

4 TI (stigma*)

5 TI (help-seeking OR treatment* OR service*)

1 AND 2 AND 4 AND 5

1 AND 3 AND 4 AND 5

1 AND 2 AND 3 AND 4

1 AND 2 AND 3 AND 5

2. **Scopus**

1 TITLE-ABS-KEY (depress*)

2 TITLE-ABS-KEY (rural* OR living* OR community* OR geograph*)

3 TITLE-ABS-KEY (urban* OR living* OR community* OR geograph*)

4 TITLE-ABS-KEY (stigma*)

5 TITLE-ABS-KEY (help-seeking OR treatment* OR service*)

1 AND 2 AND 4 AND 5

1 AND 3 AND 4 AND 5

1 AND 2 AND 3 AND 4

1 AND 2 AND 3 AND 5

3. **ScienceDirect**

1. (depression OR depressive OR depressed) AND (rural OR community OR geography) AND (stigma OR stigmatization) AND (help-seeking OR treatment-seeking OR service utilization)

2. (depression OR depressive OR depressed) AND (urban OR community OR geography) AND (stigma OR stigmatization) AND (help-seeking OR treatment-seeking OR service utilization)

3. (depression OR depressive OR depressed) AND (urban OR community OR geography) AND (rural OR community OR geography) AND (stigma OR stigmatization)

4. (depression OR depressive OR depressed) AND (urban OR community OR geography) AND (rural OR community OR geography) AND (help-seeking OR treatment-seeking OR service utilization)