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Title: Factors determining social distance towards people with depression among community pharmacists

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Abstract

Objective: The aim of the present study was to measure stigma among community pharmacists regarding patients with depression, using social distance as a proxy measure. Furthermore, factors influencing stigmatization were identified.

Methods: A survey consisting of questions regarding social distance, cognitive attitude components, stereotypical beliefs and behavioural tendencies towards pharmaceutical care for patients with depression was carried out. The survey was completed by 149 community pharmacists with a response rate of 82%. Multiple linear regression analysis was applied to the results of the survey.

Results: Most pharmacists endorsed social distance towards patients with depression. The social distance further increased the more the situation described implied 'social closeness'. Age, depression care attitude, the stereotypical belief "danger to others" and the level of involvement pharmacists showed towards patients with depression were found to predict social distance. The present model explains 32.3% of the variance in social distance.

Conclusion: The results showed that community pharmacists have a stigmatizing attitude towards patients with depression. The determinants found to influence these stigmatizing attitudes might be addressed when trying to reduce stigmatization of patients with depression.

Key words

Stigma, Social distance, Stereotypical beliefs, Depression, Community pharmacists

Introduction

In recent years, reducing stigmatizing attitudes and discriminations of mental illness has been identified as one of the major challenges in mental health [13,14,22,24,29]. It is said that in order to improve mental health and mental health care, stigma should be challenged [27]. However, research on the public's stigmatizing attitudes towards people with mental disorders showed that it is not meaningful to apply stigma to a broad and nonspecific "mental illness". Stigma should rather be considered towards a "specific illness" such as depression, since the factors associated with stigma differ between conditions [1,14,20,27]. Even though unipolar depressive disorders are prevalent, considerably more research attention has been given to stigma towards people with mental illnesses like schizophrenia [22], resulting in a limited number of studies regarding stigmatizing attitudes towards depression [34,43].

The concept of stigma

Corrigan & Wassel [10] indicated that mental illness strikes with a double-edged sword. On the one hand, patients have to cope with the symptoms and resulting disabilities of the disease itself, such as distress and loss of opportunities [10,11,35]. On the other hand, patients have to cope with the stereotypical beliefs and prejudice of the society based on misconceptions about mental illness, resulting in stigma [11,35]. As a result of this double problem, people with a mental illness are robbed of the opportunities that define satisfactory quality of life [11], are susceptible to social exclusion and isolation [26], delay or avoid seeking help, and may not comply with treatment recommendations [22]. As a further complication, people with a mental illness may lose self-confidence and self-esteem when they accept the common prejudices about mental illness and turn them against themselves [10-12,26,35,36]. The latter is defined as "self-stigma", as opposed to the reaction that the general population has to people with mental illness, referred to as "public-stigma" [11,12].

The central focus of this study is "public-stigma" which, just like "self-stigma", is understood in terms of three social cognitive components: stereotypes, prejudice and discrimination [10,11]. *Stereotypes* of people with a mental illness are cognitive representations that are stored in memory and often socially shared. These cognitive representations define individuals suffering from a mental illness as possessing certain traits (e.g. dangerous) or engaging in certain behaviours (e.g. causing disturbance) [30]. People acquire many stereotypes that describe out-groups, however this does not necessarily mean that they agree with these stereotypes. Furthermore, stereotypes cannot be considered synonymous with prejudice [10]. *Prejudice* against people who suffer from mental illness refers to negative affective reactions (i.e. anger or fear), evaluations, or attitudes toward this out-group (e.g. believing that all persons with mental illness are dangerous) [10,11,30]. Finally, *discrimination* can be considered as the behavioural consequence of prejudice, i.e. negative behaviours or actions directed towards people who suffer from mental illness (e.g. deciding not to employ someone who suffers from mental illness) [10,30,35]. In terms of the distinction made by Griffiths et al. [18], the current study examines "personal-stigma", i.e. the respondent's personal attitudes towards people with mental

illness. "Perceived-stigma", i.e. the respondent's beliefs about other people's attitudes towards people with mental illness, is not regarded.

Social distance as a measure of stigma

Social distance can be considered as one of the most commonly used and reliable measures of stigmatization [21,27]. Moreover, it can be considered as a core component of stigma [21]. Social distance reflects an individual's self-report on relative willingness to participate in different types of relationships of varying degrees of intimacy, with a person who has a stigmatized identity [6,8,27]. The desire for social distance towards people with mental illness is considered as one of the indicators for individual discrimination [15]. Furthermore, social distance has been identified as a *proxy* for discriminatory behaviour based on stigma [8].

Stigma among healthcare professionals

The literature on stigma amongst healthcare professionals invites ambiguity. Previous research on stereotypes towards people with mental illness has shown that the attitude of psychiatrists, psychologists, nurses, physiotherapists, vocational workers and social workers does not in general differ consistently in a negative or positive way from public attitudes [23]. Nevertheless, this study showed significant differences between professional groups, with psychologists holding the most positive attitude and psychiatrists holding the most negative attitude towards mentally ill people [23]. Independently of how well mental health professionals recognize a case description of major depression or schizophrenia, they express the same desire for social distance towards the described persons as the general public [28]. Therefore, the authors suggested that it is too easy to assume that mental health professionals (psychiatrists, psychologists, nurses, vocational workers, social workers and physiotherapists), generally have more positive attitudes toward mentally ill people than the general public, simply because they have better knowledge of mental health [28]. In a recent study [7], the general lack of difference in stigma towards depression between mental health professionals, health professionals and the general public, was further investigated. Opposed to Nordt et al. [28], the authors found that the ability to recognize depression case vignettes was associated with lower stigma towards depression [7]. Other research suggested that being a health care professional has an influence on the associations found in stigma research. For example, indicating weakness of character as a causal factor in depression was associated with higher stigma scores; in health care professionals the association was stronger than in the general public [42].

Despite pharmacists being among the most accessible and frequently consulted healthcare professionals within their communities [4,19], specific studies on stigma among pharmacists are scarce. Given that community pharmacists feel more uncomfortable discussing symptoms and medication with patients who have mental illness compared with patients who have cardiovascular problems [32], the hypothesis can be generated that community pharmacists also stigmatize people with mental illness.

In summary, research focusing on stigma towards depression is scarce [22], especially among mental health professionals. To our knowledge, no studies have investigated stigmatization toward patients with depression among community pharmacists. Therefore, the aim of this study was to measure social distance, as a proxy for stigma, towards people with depression among this group of health care professionals, and to identify the factors determining it.

Methods

Survey sample

The Surplus Network is one of the largest pharmacy chains in Flanders, Belgium. There are 97 pharmacies, employing 181 pharmacists, spread over the five Flemish provinces and Brussels. All pharmacists attending obligatory regional meetings of the Surplus Network during April and May 2009 were invited to participate in the survey. In total, 149 surveys were returned (response rate of 82%), of which 75.7% (N=112) were women. Most pharmacists had extensive professional experience with patients with depression: 72.8% (N=104) saw such patients in their practice at least weekly, including 30.1% (N=43) who reported seeing them daily. Likewise most pharmacists had extensive personal experience with patients with depression: 56.6% (N=82) reported having encountered people with depression in their own personal environment. Respondents had a mean age of 43.3 ± 10.8 years, and had been in practice for 17.0 ± 10.3 years. The majority of responders (N=81 or 54.7 %) were chief pharmacists; 22.3% (N=33) were adjunct pharmacists and 23.0% (N=34) replacement pharmacists. This can be considered as being a representative sample for the population of Flemish pharmacists (N=11713; data obtained from the Pharmaceutical Chamber), consisting of 72.6 % (N=8503) female pharmacists ($\chi^2 = 0.691$; df=1; $p = 0.406$), having 19.3 ± 11.3 years of experience ($t = -2.627$; df=143; $p = 0.010$). Some differences were observed regarding the function within the pharmacy, where 46.4% (N=5434) of the total population were chief pharmacists ($\chi^2 = 4.083$; df=1; $p = 0.043$), 30.9% (N=3614) adjunct pharmacists ($\chi^2 = 5.026$; df=1; $p = 0.025$) and 22.8% (N= 2665) replacement pharmacists ($\chi^2 = 0.004$; df=1; $p = 0.949$).

Survey instrument

The survey instrument consisted of different elements, in order to explore pharmacists' social distance and cognitive attitude components towards people with depression, stereotypical beliefs and attitudes towards pharmaceutical care for patients with depression. In addition the following pharmacists' characteristics were retrieved: age, gender, occupational experience, visits to psychiatric institutions ("Have you ever visited an institution for people with mental illness, including depression?"), pharmacist's function in the pharmacy, personal experience with depression ("Has someone in your family or close friends ever had a mental illness, including depression?") and professional experience with depression ("How often are you faced in your practice with people that you think/know they suffer from depression?").

Social distance

In previous research on mental health stigma towards people with schizophrenia [5], a survey instrument based on the Social Distance Scale (SDS) developed by Link et al. [25] was used. Since we aimed to assess social distance towards depression, we adapted the instrument to this context (see also Table 1). The modified version of the SDS asks respondents to indicate their willingness to engage in relationships of varying intimacy with a person previously hospitalized for depression. All seven items are rated on a 4-point Likert scale ranging from 1 (definitely willing) to 4 (definitely unwilling). Total SDS scores in this population ranged from 7 to 28, with a mean score of 17.8 ± 4.5 , with lower scores indicating less social distance and higher scores indicating more social distance. The Social Distance Scale for depression measured in pharmacists obtained a good internal consistency, with a Cronbach's alpha score of 0.91.

Cognitive attitude components

Since stigmatization towards patients who suffer from depression refers in part to cognitive attitude components towards those patients, the survey instrument included a modified version of the Depression Attitude Questionnaire (DAQ) [38], which we revised after principal component analysis and Promax rotation (DAQ-R). The 16 attitude items of the DAQ-R were assessed on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree).

The cognitive attitude components of pharmacists could be summarized by three components (see also Table 2) which accounted for 42% of the total variance (18.2%, 12.9% and 10.9%, respectively). Component I (Cronbach's α : 0.63; mean 0 ± 1) includes 6 items related to the perceived need for *involvement* of the pharmacist ("involvement" vs. "non-involvement"). Pharmacists scoring high on this component tend to perceive a high need for involvement and are aware of the specific issues concerning depression. Conversely, pharmacists scoring low on this component perceive minor need for involvement and are not aware of the existing information need of people with depression. Component II (Cronbach's α : 0.64; mean 0 ± 1) concerns 5 items on the *attitude* of pharmacists towards patients with depression ("positive" vs. "negative"). Pharmacists scoring high on this component have a positive attitude towards people suffering from depression. Low scorers on the contrary indicate a more negative attitude. Pharmacists in the latter group tend to agree that patients with depression are unreliable and that antidepressants can change their personality. They further agree that these patients put a strain on pharmacists. Component III (5 items; Cronbach's α : 0.58; mean 0 ± 1) focuses on the *etiology of depression* ("bio-chemical" vs. "psycho-social"). Pharmacists scoring high on this component tend to follow the "bio-chemical" model for depression. They consider depression as any other disease (e.g. asthma or diabetes) and exclude all psychological and sociological factors. This goes along with a more positive attitude towards antidepressants. Conversely, pharmacists scoring low on this component tend to follow the more "psycho-social" model for depression. They do not agree that depression is a disease like any other, since they think that depression is mainly due to negative life events (e.g. job loss, relationship problems or serious illness). Moreover low scorers have a more negative attitude towards antidepressants.

(Insert Table 2)

Stereotypical beliefs

The survey instrument included five items related to common stereotypical beliefs about people with mental illness, based on previous research [5] and adapted to the depression context (see also Table 3). Pharmacists were asked to indicate how strongly they endorsed each of the five stereotypes using a 5-point Likert scale, ranging from 1 (strongly agree) to 5 (strongly disagree). The five beliefs were “unpredictable” (mean: 3.2 ± 0.9), “will never recover” (mean: 3.8 ± 0.8), “hard to talk to” (mean: 2.8 ± 1), “danger to others” (mean: 3 ± 1) and “have themselves to blame” (mean: 4.3 ± 0.7). The stereotypical beliefs were not aggregated since they showed a low internal consistency, with a Cronbach’s alpha score of 0.35.

Depression care attitude

To assess behavioural tendencies of pharmacists, ten depression care attitude items were included in the survey instrument. These items were based on previous research by Scheerder et al. [37] who delineated a set of nine potential roles in pharmaceutical care for patients with depression. By splitting up the role “follow-up symptoms and side effects” into (1) “follow-up symptoms” and (2) “follow-up side effects”, ten items were generated. Other potential roles in depression care were (3) “maintain a trusting relationship”, (4) “know the patient’s medication history”, (5) “provide information on condition”, (6) “provide information on medication”, (7) “follow-up medication adherence”, (8) “provide support and listen to the patient”, (9) “advise the patient to consult a doctor when you recognise symptoms” and (10) “advise the patient to consult a doctor when symptoms worsen”. All ten items were formulated in reference to depression and rated on a 5-point Likert scale, ranging from 1 (strongly agree that it is important to take up this role) to 5 (strongly disagree). The total depression care attitude score was obtained by summing the ten inversed attitude scores (inversion eases the interpretation), and ranged in this population from 10 to 29, with a mean score of 20.2 ± 3.9 . Lower scores indicate a negative attitude toward pharmacists’ potential roles in depression care whilst higher scores indicate a more positive attitude. With a Cronbach’s alpha score of 0.77, good internal consistency was demonstrated for the total depression care attitude questionnaire.

Data analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 17.1 (SPSS Inc., Chicago, USA). Descriptive statistics for each item of the SDS and depression care attitude scale were calculated and tabulated. The total scale scores were calculated by summing the individual responses for each item. To determine the internal consistency of these scales, Cronbach’s alphas were calculated. After principal component analysis and Promax rotation, the three components of the DAQ-R were saved as new variables and Cronbach’s alphas were calculated. Frequencies for the five stereotypical beliefs and the pharmacists’ characteristics were calculated and tabulated.

To examine predictors of social distance, multiple linear regression analysis was carried out, using the total SDS score as the dependent variable. The predictor variables in the regression were: gender,

visit to psychiatric institution (dummy coded as “no”; reference category and “yes”), personal experience with depression (dummy coded as “no”; reference category and “yes”), total depression care attitude scale score, involvement (component I DAQ-R), attitude (component II DAQ-R), etiology (component III DAQ-R), each of the five stereotypical beliefs (dummy coded as “no belief”; reference category and “belief”) and age (dummy coded as “24-40”; reference category and “40-63” years). The age categories were based on the fact that the concept of pharmaceutical care was introduced in the pharmacy degree offered by Flemish universities about 15 years ago, meaning that pharmacists under 40 years of age are more familiar with the expanded role of the pharmacist than their older colleagues. Missing values were replaced by the median of all nearby points. All independent variables were entered simultaneously. To verify the assumptions for linear regression normality plots of the residues with normality tests were carried out and plots were considered on homoscedasticity and linearity. In the linear regression, unstandardized coefficients were used to show the effect of each dichotomous predictor on the social distance scale score and the level of significance was set at 0.05.

Results

Social distance

Table 1 shows the responses to the seven items of the Social Distance Scale. The results indicate the existence of social distance towards depression by community pharmacists. In general the level of social distance increases the more the situation described implies 'social closeness'. The greatest social distance was therefore observed when the respondent was asked whether a person previously hospitalized with depression should *look after children* (N= 41, 27.9%), *marry* into the family (N= 30, 20.5%), *get introduced to a friend as a relationship partner* (N= 32, 21.9%) or *share a flat* (N= 26, 17.7%). The smallest social distance was observed when the respondent was asked whether a person previously hospitalized with depression should be a *neighbour* (N= 6, 4.1%), *work alongside as a colleague* (N= 9, 6.1%) or *get recommended for a job* (N= 14, 9.6%).

(insert Table 1)

Stereotypical beliefs

Table 3 shows the distribution of the answers on the five items related to common stereotypical beliefs about people with severe depression. The community pharmacists believed most in the stereotypical beliefs "*hard to talk to*" (N= 72, 48.6%), "*danger to others*" (N= 57, 39.3%) and "*unpredictable*" (N= 42, 28.4%). Nonetheless, the pharmacists were not willing to agree with the stereotypical beliefs "*have themselves to blame*" (N= 2, 1.3) and "*will never recover*" (N=14, 9.5%).

(insert Table 3)

Multiple linear regression

The results of the multiple linear regression analysis for the social distance scores are shown in Table 4. The explained variance of the model was 32.3% (R^2). Social distance was significantly greater in the older age group (40-63 years) compared with the reference category (age 24-40) ($\beta = .162$; $p < 0.05$) and in pharmacists with lower total depression care attitude scores ($\beta = -.188$; $p < 0.05$). Believing in the stereotype "people with severe depression are a danger to others" was associated with increased social distance ($\beta = .173$; $p < 0.05$). All other stereotypical beliefs ("unpredictable", "will never recover", "hard to talk to", "have themselves to blame") were not significantly associated with social distance. Pharmacists scoring high on component I of the DAQ-R (involvement) showed significantly less social distance compared to pharmacists scoring low on this component ($\beta = -.175$; $p < 0.05$). The other components of the DAQ-R (attitude and etiology) were not significantly associated with social distance. Visiting a psychiatric institution and personal experience with depression did not influence social distance, neither did gender.

(insert Table 4)

Validity of the linear regression model

In order to validate our model we checked the assumptions regarding linear regressions. The residual plot on the predicted value showed no reason to suspect heteroscedasticity of the error term. We can assume linearity, since the residues were evenly spread around the horizontal zero line. The normal probability plot and the histogram of the residuals indicated that the normality assumption of the error term ($\varepsilon_i \sim N(0, \sigma^2)$) holds.

Discussion

Major findings

Most pharmacists in this study endorsed social distance towards patients with depression. The social distance further increased the more the situation described implied 'social closeness'. This is in line with previous research involving the general public [24,41] and genetic counselors [17]. To our knowledge, this is the first study specifically investigating pharmacists' social distance towards depression. The results of this study may therefore contribute to our understanding of the attitudes of pharmacists towards patients with depression.

Stereotypical beliefs and stigma

Considering stereotypical beliefs, we found that although the overall majority of the pharmacists do not agree that patients with severe depression will never recover or have themselves to blame, almost 30% of the pharmacists do agree that patients with severe depression are unpredictable. Furthermore, almost 40% believed that such patients are a danger to others. Above all, almost half of the pharmacists agreed that patients with severe depression are hard to talk to. But does this imply that half of the pharmacists avoid talking to patients with depression? Although we did not investigate current practice in depression care, we might assume that these beliefs may influence the delivered pharmaceutical care to patients with depression. Since depressed patients may engage in behaviour that confirms the common stereotypes, these beliefs may further impact on the way pharmacists communicate with patients with depression. Further research is needed to explore those hypotheses.

Another question that can be raised is why pharmacists, as healthcare professionals, might agree with stereotypical beliefs. One explanation can be found in the cognitive approach that is used to understand stereotypes [40]. This cognitive approach assumes that our complex physical world requires the establishment of ways to group stimuli into meaningful categories, in order to form reasonable expectations and appropriate reactions about the multitude of objects that we encounter. Without giving any thought to the nature and consequences, humans routinely and reflexively categorize the objects that they encounter. Next to the complex physical world, the diversity of people we encounter in our social world, leads us to seek general principles that characterize each person. This rapid, largely effortless process of extracting and applying a categorizing view is referred to as stereotyping [30]. Only when motivation for accuracy is high, will people make an effort to really get to know the unique individual beyond the stereotype. In many everyday life contexts in which persons with serious mental illnesses are encountered, people may lack the motivation to really get to know them. The motivation that is necessary to devote more effort to get to know the unique individual, might directly be undermined by the rapid, automatic activation of stereotypes (e.g. potential danger) and will trigger a desire for greater social distance [25,30]. Stereotypic efficiency is also called for whenever people are busy or distracted [39]. A pharmacy can be described as an environment in which multiple goals must be pursued simultaneously, which is a circumstance that promotes greater reliance on stereotypes [36]. This further helps to explain why even experienced healthcare providers, such as pharmacists, might respond stereotypically to patients with mental disorders.

Predictors of social distance

As a whole, our multiple linear regression supports previous research [1,5,24,29,41] showing that social distance is a multifaceted concept influenced by a multitude of variables, in which only a modest percentage of variance can be explained by stereotypical beliefs. One of these studies [41], involving the Dutch public, was only able to explain 20% of the variance in levels of social distance towards patients with mental illness. In our regression model, measures of stereotypical beliefs about depression taken together with other predictors, accounted for 32.3% of the variance in preferred social distance by Flemish pharmacists.

More specifically, the stereotypical belief “danger to others” was strongly associated with increased social distance, which is in line with previous literature [2,27]. Perceiving persons with mental illness as dangerous is related to fearing such persons [11,27], and fear in turn yields avoidant behaviours, explaining the strong preference for social distance [2]. The other stereotypical beliefs were not indicated as significant predictors of social distance.

The regression model further indicates age as a significant predictor since social distance was significantly greater in people aged 40-63, compared to people aged 24-40. This confirms previous findings that older persons are more likely to desire social distance than their younger counterparts [21,27].

The depression care attitude score was also indicated as a significant predictor of social distance. Pharmacists with lower total depression care attitude scores, reflecting a more negative attitude towards pharmacists' potential roles in depression care, preferred more social distance compared to pharmacists with higher scores and more positive attitudes. This is the first study that associates pharmacists' attitudes towards their role in depression care with social distance. This conceptualization is in line with social psychologists' view on the attitude concept. As for instance Eagly and Chaiken [16] summarized, attitudes consist of cognitions on the attitude object, affective evaluations and behavioural tendencies towards the object. Conceptualized as such, behavioural tendencies are of great predictive value for attitudes. Translated to the case of stigma (considering stigma as an attitude towards a specific group of persons), we found that social distance could be predicted by depression care attitude, as a measure of behavioural tendencies. One may further assume that pharmacists who do not accept a potential role in the care for depressed patients and hence are more likely to prefer greater social distance towards such patients, provide them with less pharmaceutical care, which can be considered discrimination. This finding needs to be confirmed by future research, comparing pharmaceutical care delivered towards patients with depression vs patients in general.

Only component I of the DAQ-R, namely “Involvement” was indicated as a significant predictor of social distance. This finding suggests that pharmacists who perceive a high need for involvement in depression care and who are aware of the specific issues concerning depression prefer less social distance towards patients with depression than pharmacists who perceive no need for involvement.

More specifically, pharmacists in the category 'involved' have the knowledge that everyone can suffer from depression, even children; they assume that most depressions need a treatment and will not just improve over time. Pharmacists in the category 'non-involved' seem to think that depression mainly occurs in people with little resistance and that those patients already receive all necessary information about their condition and medication from their doctor or psychiatrist. One may assume that pharmacists scoring low on component I of the DAQ-R (as a marker for cognitive attitude components) and who prefer greater social distance, will probably deliver less pharmaceutical care towards patients with depression.

The other DAQ-R components ("attitude" and "etiology") were not significantly associated with social distance. The finding regarding component III "etiology" is not in line with previous research, which indicated that biogenetic causal beliefs were negatively associated with social distance towards the mentally ill [33]. As indicated by previous work [41], more research is needed on the role of causal beliefs (which includes etiology) on stigma towards mentally ill patients.

Gender was also not indicated as a significant predictor of social distance towards patients with depression. The existing literature on mental illness is inconclusive regarding this issue, as research indicates that responses were similar between men and women [14], whilst another study reported that women express more social distance [24]. The latter is contrary to the belief that women have generally less stigmatizing attitudes towards mental illness than men [3]. Nevertheless, our results confirm the conclusion of Jorm and Oh [21] that *"there is no reliable gender difference in social distance"*.

Personal experience with depression did not influence social distance. This finding contradicts other research suggesting that respondents who know someone with depression are less likely to express stigmatizing opinions [13] and that having experience with depression, whether as a patient, carer or professional, reduces social distance [20]. The lack of impact of personal experience as observed in our study may be a function of the frequent professional experience with depressed patients. Mental health professionals might be seeing people when they are most disabled rather than when they are doing well, and hence contact may not reduce social distance in this population [21]. Future research should pay more attention to the operationalization of the variable "personal experience", as the current study was not able to assess "familiarity", which has been described as knowledge of and experience with mental illness [8] and has been associated with less fear towards people with mental disorders and less social distance [2,8]. Having visited a psychiatric institution did not influence social distance either.

Limitations

The current study has several limitations. Since we used a social distance scale, the dependent variable in the current study is based on what pharmacists say they think and how pharmacists say they would behave [9]. Although behavioural intentions are often good predictors of behaviour [27], social distance should not be mistaken for actual interpersonal behaviour; it is only a *proxy* measure of

social behaviour [31]. As indicated previously [9,27,29], future research should also contain direct measures of actual behaviour. Furthermore, discrimination based on stigma has many facets, of which only one has been addressed in this study: social distance as an indicator for individual discrimination [15]. The second limitation associated with the use of a social distance scale is social desirability bias [27]. In order to appear as “a caring and good pharmacist” respondents might deny social distancing thoughts and answer in a socially desirable way. Therefore, our results might underestimate the extent of real social distance. Finally, the generalization of the findings obtained with the SDS might be limited, as the questions specifically referred to patients having been hospitalized for depression, and not to patients with depression in general.

In line with previous research [5,14], the current study explored common stereotypical beliefs towards people with depression as single-item measures with unknown reliability. This can be considered as a limitation since the interpretation of findings based on this type of measures is difficult.

A primary limitation of the current study is that there is no comparison condition for the social distance measure. The results showed a concerning degree of desire for social distance in Flemish pharmacists towards patients having been hospitalized for depression. However, a measure of social distance towards a non-depressed person would have aided interpretation of the results. We do not know the pharmacists' typical desire for social distance in general. Nevertheless we were able to compare the mean social distance score for depression (17.8 ± 4.5) with the mean social distance score for schizophrenia, measured among pharmacists of the Surplus network (21.6 ± 3.6) (unpublished data). The score for schizophrenia in this sample was similar to the scores obtained by pharmacy students from six countries, including Belgium [5]. Although the samples may have differed on other variables, it is an indication of the common level of stigma regarding schizophrenia among pharmacists and pharmacy students. The finding that stigma towards patients with depression is lower than towards patients with schizophrenia (as measured in community pharmacists) confirms previous findings in other populations [1,18].

The statistical power of the study is limited due to the rather small sample size ($N = 149$). Some of the non-significant results might become significant with a larger sample size.

The current study only measured “personal-stigma”. Future research should include a measurement of “perceived stigma” as previous research [18] indicated that people are more likely to state that others hold stigmatizing beliefs, as compared to “personal-stigma”.

Strengths

Given the fact that the sample can be considered as representative for the overall population of Flemish pharmacists (confirmed by analysis of total population data obtained from the Pharmaceutical Chamber), and that a response rate of 82 % was obtained (even without incentives) our data allow us to draw a valid picture of the factors determining social distance towards people with depression among community pharmacists in Flanders.

Studies on stigma towards people with unipolar depressive disorder among community pharmacists are lacking. This study addresses not only the question to which magnitude stigma is present within community pharmacists, but also which factors might contribute to the development of social distance. Moreover, in the existing literature, social distance was never associated with items referring to depression care attitude and attitude towards depression as measured in the DAQ.

Conclusion

The current study shows that community pharmacists endorse social distance towards people previously hospitalized with depression. This social distance is partly determined by stereotypical beliefs, such as the idea that patients with depression are a danger to others. The level of involvement pharmacists show towards patients with depression, as measured by component I of the DAQ-R, and their behavioural tendencies towards pharmaceutical care for patients with depression can additionally predict social distance.

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Table 1
Social Distance to a person with depression in different social contexts

For a person previously hospitalized with depression	N Total	Definitely willing		Probably willing		Probably not willing		Definitely unwilling	
		N	%	N	%	N	%	N	%
Share a flat with that person	147	6	4.1	57	38.8	58	39.5	26	17.7
Work alongside that person	147	24	16.3	83	56.5	31	21.1	9	6.1
Have that person as a neighbour	147	41	27.9	92	62.6	8	5.4	6	4.1
Have that person as a babysitter for child	147	5	3.4	44	29.9	57	38.8	41	27.9
Have one of your children marry that person	146	4	2.7	44	30.1	68	46.6	30	20.5
Introduce to friend as relationship partner	146	7	4.8	37	25.3	70	47.9	32	21.9
Recommend that person for a job	146	17	11.6	57	39.0	58	39.7	14	9.6

Table 2

Principal components of pharmacists' attitude towards depression with indication of the respective items and item loadings

	Component		
	1	2	3
Patients with depression receive all necessary information about their medication from their general practitioner or psychiatrist	0.802		
Patients with depression receive all necessary information about this disease from their general practitioner or psychiatrist	0.762		
Children cannot suffer from severe depression	0.578		
Weakness of character is a cause related to depression	0.490		
Anyone can suffer from depression	-0.425		
Most depressions get better without treatment	0.411		
Patients with depression generally do not understand information about their medication		0.779	
Patients with depression generally do not follow-up information about their medication		0.777	
Antidepressants can change one's personality		0.557	
Patients with depression put a strain on pharmacists		0.531	
Patients with depression are unreliable		0.477	
Patients with depression need to pull themselves together to get over it			0.680
Most depressions stem from negative life events			0.614
Antidepressants are addictive			0.595
Depression mainly has psychological causes			0.591
Depression is a disease like any other			-0.498

Table 3
Stereotypical beliefs

Patients with severe depression	N Total	Σ Score (strongly) Agree		Σ Score (strongly) Disagree	
		N	%	N	%
Are unpredictable	148	42	28.4	59	39.9
Will never recover	147	14	9.5	116	78.3
Are hard to talk to	147	72	48.6	40	27.1
Are a danger to others	146	57	39.3	53	36.6
Have themselves to blame	145	2	1.3	135	90.6

Table 4
Results of the multiple linear regression analysis for social distance toward people with depression (N= 149; R² = 0.323; SE= 3.831; F= 4.963; df= 13; p< 0.001)

Predictor	β	p
Age		
Age 40-63 years ¹	0.162	0.032
Gender		
Female ²	-0.042	0.581
Visit to psychiatric institution (yes) ³	-0.133	0.080
Personal experience with depression (yes) ³	-0.062	0.410
Depression care attitude scale score	-0.188	0.014
Depression attitude (DAQ-R)		
Involvement (Component I)	-0.175	0.024
Attitude (Component II)	-0.117	0.140
Etiology (Component III)	-0.111	0.162
Stereotypical beliefs		
“Unpredictable” ⁴	0.134	0.106
“Will never recover” ⁴	0.110	0.158
“Hard to talk to” ⁴	0.064	0.417
“Danger to others” ⁴	0.173	0.024
“Have themselves to blame” ⁴	0.047	0.534

¹ Age 24-40 is reference category
² Male is reference category
³ No is reference category
⁴ No belief is reference category
Coefficients with p < 0.05 are shown in bold