

Original Research

Lay Beliefs About Treatments for People With Mental Illness and Their Implications for Antistigma Strategies

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Objective: First, to describe factors influencing the public's attitude toward treatment recommendations for people with mental illness; second, to identify coherent belief systems about the helpfulness of specific interventions; and third, to discuss how to ameliorate mental health literacy and antistigma strategies.

Method: Participants of a representative telephone survey in the general population ($n = 1737$) were presented with a vignette depicting a person with either schizophrenia or depression. From a list of suggestions, they were asked to recommend treatments for this person. We used a factor analysis to group these proposals and used the factors as the dependent variables in a multiple regression analysis.

Results: Treatment suggestions are summarized in 4 groups, each characterizing a specific therapeutic approach: 1) psychopharmacological proposals (that is, psychotropic drugs), 2) therapeutic counselling (from a psychologist or psychiatrist or psychotherapy), 3) alternative suggestions (such as homeopathy), and 4) social advice (for example, from a social worker). Medical treatments were proposed by people who had a higher education, who had a positive attitude toward psychopharmacology, who correctly recognized the person depicted in the vignette as being ill, who were presented with the schizophrenia vignette, who kept social distance, and who had contact with mentally ill people. The variables could explain alternative and social treatment proposals only to a small extent.

Conclusions: The public's beliefs about treatment for people with mental illness are organized into 4 coherent systems, 2 of which involve evidence-based treatments. Medical treatment proposals are influenced by adequate mental health literacy; however, they are also linked to more social distance toward people with mental illness. Additionally, efforts to better explain nonmedical treatment suggestions are needed. Implications for further antistigma strategies are discussed.

(Can J Psychiatry 2005;50:745–752)

Information on funding and support and author affiliations appears at the end of the article.

Clinical Implications

- The public's attitude toward mental health treatment is not as logical and clear-cut as expected.
- Improving mental health literacy may increase social distance toward people with mental illness. Thus strategies to improve attitudes and knowledge, for example, through education or through contact with mentally ill people, must be carefully evaluated.
- More research is needed to clarify the relation between social distance and knowledge about mental disorders.

Limitations

- This study highlights the challenges to research on public attitudes, for example, the tendency to include communicative and cooperative respondents who tend to respond according to social desirability.
- Attitudes should not be mistaken for actual interpersonal behaviour but should be considered as a proxy measure of social behaviour.
- Because the linear regression analysis does not allow any missing values, we lost some respondents from the original sample, owing to missing answers.

Key Words: mental disorder, stigma, attitude, schizophrenia, depression, survey, treatment, psychopharmacology, mental health literacy

Stigma because of mental illness, especially schizophrenia and depression, is widespread. It affects different life domains: interpersonal relationships, housing, employment, and overall quality of life. Because of stigma, the rehabilitation of people with mental illness is jeopardized. Given these harmful consequences, reducing stigma is an important goal of public mental health (1,2).

Some initiatives targeted stigma in recent years, for example, the initiatives launched by the WPA and the British Royal College of Psychiatrists (3–5). Undoubtedly, these projects were milestones in attracting public awareness. However, most of these campaigns were based on common sense rather than on sound research in this field. More research-based strategies will be essential to refine our antistigma efforts in the future. More knowledge about contributing factors, such as lay attitudes toward therapeutic management of mental disorders, is especially required.

Several population surveys found mental health professionals to be helpful, particularly with regard to psychiatric treatment. However, their treatment methods, especially the use of psychotropic drugs, were regarded as harmful (3,6–16). Thus we have to recognize that the mental health literacy in the general population, notably the knowledge about psychiatric treatment approaches, is low (17).

Although different research groups have addressed this topic, we know little about the underlying factors of this illiteracy. For a better understanding, we conducted a representative survey in Switzerland on public attitudes toward treatment recommendations for mental illness. Using previously published descriptive data (9), this paper aims to 1) describe factors influencing the public's attitude toward treatment recommendations; 2) identify, with a factor analysis, coherent belief systems (that is, whether beliefs about the helpfulness of specified interventions cooccur with beliefs about the helpfulness of other related interventions); and 3) discuss how to ameliorate mental health literacy and antistigma strategies.

Abbreviations used in this article

CATI	computer assisted telephone interviewing
ECT	electroconvulsive therapy
GP	general practitioner
SD	standard deviation
WPA	World Psychiatric Association

Method

Sample

We drew a representative sample of the Swiss residential population aged between 16 and 76 years and living in a private household ($n = 1737$). We used a telephone directory of the only telecommunication company in Switzerland, which contained all telephone numbers, to create a random sample of households. We covered 89.7% of the total directory. People aged over 76 years were excluded because they often have problems understanding the interview and because many of them are not living in private households (7). A target person in each household was selected with the Kish-method, which allows random selection of the household member to be interviewed (18). This was done according to 8 selection tables on the basis of age, sex, and number of household residents. In the sampling process, 1037 people refused to take part in the interview, which resulted in a response rate of 63%.

The Interview, Including Specific Questions About Treatment Proposals

We carried out CATI in cooperation with a specialized institute for survey research. The interviewers were trained and supervised during the survey. If the selected person within a contacted household agreed to be interviewed, a date was fixed. In the meantime, we sent the interviewees written material containing visual aids to facilitate the interview and increase data quality.

The interview included 3 parts. Part 1 included general questions about mental illness and psychiatric institutions, including the interviewee's opinion toward psychopharmacology (Cronbach's $\alpha = 0.67$) (19). Part 2 included a vignette depicting a case of either major depression or schizophrenia fulfilling the respective DSM-III-R criteria (20). One-half of the presented vignettes ($n = 869$) identified the respective psychiatric diagnosis. We asked the remaining 868 interviewees, who were not informed of the diagnosis, to indicate whether the person described either had an illness or was in a life crisis.

Eighteen treatment proposals (see Table 1) were then presented. To increase data quality, we had sent these proposals to the participants in advance. During the telephone interview, the respondents had to, first, enumerate all proposals considered to be helpful and, second, enumerate all those regarded as harmful, with respect to the person described in the vignette. The presentation of the vignette was immediately followed by questions on social distance toward the respective case described (Cronbach's $\alpha = 0.86$) (21). In Part 3, we assessed respondents' contact with mentally ill people (Cronbach's $\alpha = 0.49$); their rigidity (Cronbach's $\alpha = 0.62$) (22), for example, individual preference for clarity and stability in life, but also a low ability to adapt to changes; and their demographic factors.

Table 1 Public opinions about treatment recommendations (n = 1737) (9)

	Helpful recommendations (%)	Harmful recommendations (%)
No proposal	2 (0.12)	14 (0.80)
Visiting a psychologist	1194 (68.74)	59 (3.40)
Visiting a general practitioner	995 (57.28)	89 (5.12)
Getting outside and becoming active	996 (57.34)	62 (3.57)
Visiting a psychiatrist	887 (51.06)	140 (8.06)
Making a psychotherapy appointment	785 (45.19)	125 (7.20)
Calling a counselling service	501 (28.84)	169 (9.73)
Visiting a social worker	496 (28.55)	132 (7.60)
Going to see a priest	491 (28.27)	231 (13.30)
Treatment with antidepressants	401 (23.08)	603 (34.72)
Visiting a naturopath	345 (19.86)	233 (13.41)
Taking homeopathy	363 (20.90)	280 (16.12)
Treatment in a psychiatric hospital	296 (17.04)	392 (22.57)
Taking vitamins and minerals	209 (12.03)	390 (22.45)
Taking a tranquilizer	205 (11.80)	840 (48.36)
Taking antipsychotics	189 (10.88)	637 (36.67)
Dealing alone with the situation	78 (4.49)	1138 (65.52)
Taking hypnotics	70 (4.03)	1065 (61.31)
Receiving ECT	23 (1.32)	1041 (59.93)
Numbers of recommendations (SD)	4.91 (2.44)	4.39 (2.54)

Statistical Analyses

After the descriptive data analysis (Table 1) (9), we performed a factor analysis including the 18 treatment recommendations. The answers were coded as follows: 1 for helpful, -1 for harmful, and 0 for not mentioned at all (Table 2). Of the 18 items, the following 4 factors could be discriminated:

1. Pharmacologic recommendations, including tranquilizers, hypnotics, antidepressants, and antipsychotics (Cronbach's $\alpha = 0.69$).
2. Therapeutic recommendations, such as visiting a psychologist, visiting a psychiatrist, not dealing with the situation alone, getting treatment in a psychiatric hospital, and receiving psychotherapy (Cronbach's $\alpha = 0.54$).
3. Alternative recommendations, such as visiting a naturopath, taking vitamins and minerals, taking homeopathy,

and getting outside and becoming active (Cronbach's $\alpha = 0.60$) and

4. Social recommendations, such as visiting a social worker, going to see a priest, or seeking telephone counselling (Cronbach's $\alpha = 0.39$).

ECT and GPs did not load on a factor and are therefore separately analyzed (23).

Of the 4 factors, we constructed a summative index of pharmacologic or therapeutic, compared with alternative or social, treatment recommendations (Cronbach's $\alpha = 0.56$). This allowed us to distinguish recommendations shaped by a medical understanding from those based on an alternative comprehension of treatment. To control for the confounding effect of the scale "positive attitude toward psychopharmacology," we constructed a subindex on therapeutic, compared with alternative, social treatment recommendations (Cronbach's

Table 2 Rotated factor loadings (varimax) of the 18 treatment recommendations ($n = 1737$)

	Factor 1	Factor 2	Factor 3	Factor 4
Tranquillizers	0.77	0.12	-0.09	-0.03
Hypnotics	0.71	0.10	-0.21	-0.01
Antipsychotics	0.68	-0.10	0.24	-0.01
Antidepressants	0.63	0.06	0.30	-0.05
Homeopathy	0.17	0.71	0.02	0.06
Naturopath	-0.03	0.60	-0.03	0.20
Getting outside and becoming active	-0.02	0.61	0.04	-0.02
Vitamins and minerals	0.15	0.57	-0.24	0.22
Psychotherapy	0.21	0.08	0.63	0.00
Psychiatrist	0.10	-0.23	0.57	0.11
Deal alone with the situation	0.11	0.05	-0.53	0.13
Psychologist	-0.13	0.21	0.55	-0.05
Psychiatric hospital	0.27	-0.32	0.51	0.24
Telephone counselling	-0.02	0.01	0.04	0.66
Priest	-0.04	0.15	0.04	0.57
Social worker	-0.03	0.22	0.02	0.54
GP	-0.01	-0.01	-0.04	0.34
ECT	0.22	-0.25	-0.14	0.29
Explained variance	12.31%	10.74%	10.32%	7.97%

$\alpha = 0.55$). Using multiple regression analysis, we identified covarying predictors of the different treatment recommendation scales (Tables 3 and 4).

Results

Table 1 shows the percentage of proposals for the total sample ($n = 1737$). The suggestions mentioned most often were visiting a psychologist, visiting a GP, getting outside and becoming active, and visiting a psychiatrist. Among the traditional psychiatric treatment approaches, 45% recommended psychotherapy. Other psychiatric standard treatment methods, such as psychopharmacology, psychiatric hospitalization, and ECT, were less favoured; only 23% or less of the respondents chose these suggestions. Sixty-five percent of the interviewees considered "dealing alone with the situation" to be harmful. Moreover, respondents especially warned of hypnotics and sedatives and, to a lower extent, antidepressants and antipsychotics.

Table 3 presents the multiple regression analyses of the 4 factors extracted by a factor analysis. Pharmacologic recommendations were correlated with more social distance, a more rigid personality, a positive attitude toward psychopharmacology, and having contact with mentally ill people. The explained variance (adj) is 6.3%. The following variables were associated with therapeutic recommendations ($R^2[\text{adj}] = 0.182$): a positive attitude toward psychopharmacology, recognizing that the person described is mentally ill, younger age, keeping more social distance toward people with a mental illness, having contact with people with mental illness, female sex, and being presented with the schizophrenia vignette. Those with a negative attitude toward psychopharmacology, those who were presented with the depression vignette (the β -value is negative), and those who did not correctly recognize the case described favoured alternative suggestions. The explained variance (adj) is 9.9%. Respondents with a higher education and those who correctly identified the mental illness presented did not favour social recommendations ($R^2[\text{adj}] = 0.020$).

Table 3 Beta of the multiple regression analysis on treatment recommendations (n = 774)

	Pharmacologic	Therapeutic	Alternative	Social
Age	0.070	-.0150***	-0.015	0.058
Education	-0.024	0.045	-0.071*	-0.079*
Female sex	0.009	0.100**	0.061	0.045
Vignette (schizophrenia)	-0.038	0.090*	-0.138***	0.002
Case perceived as mentally ill	0.074	0.196***	-0.097*	-0.098*
Positive attitude toward psychopharmacology	0.110**	0.196***	-0.205***	-0.023
Social distance	0.118**	0.132***	-0.039	-0.039
Contact with mentally ill	0.080*	0.129***	-0.012	0.007
Rigidity	0.114**	-0.002	-0.005	0.056
R ² (adjusted)	0.063***	0.182***	0.099***	0.020**

*P ≤ 0.05; **P ≤ 0.01; ***P ≤ 0.001

Table 4 Beta value of the multiple regression analysis on treatment recommendations (n = 774)

	Therapeutic vs alternative or social	Pharmacologic or therapeutic vs alternative or social
Age	-0.105**	-0.050
Education	0.098**	0.069*
Sex (female)	0.008	0.011
Vignette (schizophrenia)	0.128***	0.086*
Case perceived as mentally ill	0.210***	0.215***
Positive attitude toward psychopharmacology	0.238***	0.258***
Social distance	0.116**	0.161***
Contact with mentally ill	0.080*	0.110***
Rigidity	-0.022	0.044
R ² (adjusted)	0.208***	0.222***

*P < 0.05; **P < 0.01; ***P < 0.001

Table 4 demonstrates the regression analyses of the 2 summative indexes. The explained variance, as well as most significant variables, are similar in both models: higher education, a positive attitude toward psychopharmacology, recognition of the person depicted as being ill, being shown the vignette depicting schizophrenia, keeping more social distance from people with a mental illness, and having contact with people with mental illness are common positive predictors.

Discussion

From a professional perspective, it is important to know whether the general population holds opinions that are in line with evidence-based knowledge (that is, whether the public's mental health literacy is satisfactory). This study helps to find underlying factors that explain why people recommend a particular treatment for mental illness. Thus it may help clarify the question of whether a medical model should be favoured

in the public discourse. The results of this analysis can be summarized as follows:

- Laypeople recommended therapists, for example, psychologists, GPs, and psychiatrists, rather than therapeutic methods for people affected by mental illness.
- By means of a factor analysis, the treatment recommendations can be summarized into 4 groups: psychopharmacological proposals, therapeutic counselling, alternative suggestions, and social advice.
- The model best predicting treatment recommendations is therapeutic counselling, which comprised the use of a psychologist or psychiatrist, not dealing alone with the situation, psychiatric hospitalization, and psychotherapy ($R^2[\text{adj}] = 0.182$). This model is explained by a positive attitude toward psychopharmacology, correct recognition of the person in the vignette as being ill, younger age, and keeping more social distance from or having contact with people with mental illness. The other 3 models (alternative, pharmacologic, and social) had a much lower explained variance.
- Medical treatments for mental illness were favoured by people with a positive attitude toward psychopharmacology, who recognized the illness of the person described, who were presented with the schizophrenia vignette, who kept more social distance, who had a higher education, and who had contact with people with mental illness.

Weaknesses and Strengths of This Survey

Before the results are interpreted, some methodological limitations of this survey should be acknowledged. First, this study highlights general problems with research on public attitudes, for example, the tendency to include communicative and cooperative respondents who tend to answer according to social desirability. Thus we chose telephone interviews, which are considered superior to face-to-face interviews in terms of confidentiality and social desirability (24). Second, attitudes should not be mistaken for actual interpersonal behaviour but should be considered a proxy measure of social behaviour (25). Further, different studies revealed a close relation between attitudes and subsequent behaviour (14). Third, the response rate was only 63%; however, this rate is in line with other public opinion surveys (see 11), and it must be taken into consideration that no incentives for participation were given. Finally, as the linear regression analysis does not allow any missing values, we lost 94 respondents from the original subsample ($n = 868$) owing to missing answers. Nonetheless, some strengths of this analysis should be mentioned. This representative sample allowed us to draw a clear picture of public attitudes toward treatment recommendations for mental illness. To our knowledge, this is the first study to include diverse demographic, psychological, and sociological

variables in a regression analysis and to be able to explain a considerable part of the variance.

Comparison With the Literature

The results presented here are a further development of our own research and of studies done by others (see 9,13). The descriptive data confirm previous findings that the public recommends therapies depending on the case depicted, that is, more medical treatments for people affected by schizophrenia than for those with depression are recommended, and psychotherapy predominates over other psychiatric therapeutic methods.

Treatment Recommendations Are Organized in Coherent Systems

The factor analysis revealed that the public's beliefs are organized into 4 coherent systems, each with typical beliefs about helpful interventions for people with mental illness. Two groups (the therapeutic and pharmacologic suggestions) involve evidence-based treatments, whereas social and alternative proposals include ideas that are not evidence-based. However, the discussion of these social and alternative belief systems is hampered by the partly explained, small variance of the various regression models applied. Explanations in addition to medical and pharmacologic treatment suggestions are needed and would allow for the formulation of strategies that target individuals who favour the respective proposals. Thus the subsequent discussion focuses on the 2 summative indices.

Improving Mental Health Literacy at What Price?

The results with respect to the medical treatment recommendations are controversial. Those who favoured medical treatment proposals were influenced by adequate mental health literacy, that is, a positive attitude toward psychopharmacology, correct identification of the vignette, a higher education, and more contact with mentally ill people. This model would imply that the public's mental health literacy needs improvement. Conversely, a positive attitude toward medical treatment proposals is simultaneously linked to more social distance toward people with mental illness.

Our results suggest that greater social distance from people with mental illness is the price to be paid for better mental health literacy. A possible interpretation of this finding might be that social distance from people with mental illness is an expression of helplessness toward those affected. One sign of this helplessness is the rejection of mentally ill people. Another sign might be trying to help people with mental illness, for example, by accepting or recommending proven treatment methods.

These results lead to a contrasting procedure: either improve mental health literacy with the consequence of more social

distance from those affected or promote a nonmedical understanding of treating mental disorders with the result of less social distance. Neither alternative is in line with current antistigma campaigns.

Implications for Further Antistigma Endeavours

First, these findings show that the public's attitude is not as logical and clear-cut as might be expected. Thus it is a difficult task to find strategies that could have an impact on stigmatizing attitudes. Further, our results suggest that improving mental health literacy may have the disadvantage of increasing social distance toward people with mental illness. Thus strategies to enhance positive attitudes and better knowledge, for example, by education or through contact with mentally ill people (26,27), must be carefully evaluated against the background of the findings presented here. Finally, more research is needed to clarify the relation between social distance and knowledge about treatment methods or, more generally, mental disorders.

Funding and Support

This study was exclusively supported by the Swiss National Science Foundation (grant number 32-52571.97).

Acknowledgement

We thank Luis Falcato, who helped design this study and who collected the data. We thank Jacinta Miio for her help in the linguistic improvement of this paper.

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Manuscript received May 2004, revised, and accepted February 2005.

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