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Are Online Forums a Useful Resource for the Study of Health Needs and Related Information Behaviour? Linguistic Analysis of Two Online Forums for People with Mental Disorders

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Abstract

Knowledge of people's health information needs and information behaviour can be used in planning health interventions in a way that they would meet people's needs as accurately as possible and reflect how health information is acquired and processed.

Aim. The aim of the study presented in this paper was to analyze the usefulness of online forums as a source of scientific knowledge about people's health needs and information behaviour, which could then be actively used in the area of public health.

Method. The content, a total of 1,575 entries, derived from two open forums devoted to depression in the years 2012–2015 was analysed using a set of mixed methods, including: a formal (quantitative) analysis of the material using the tools of computational linguistics (QDAMiner Simsat), inductive theme analysis EMIC, in the so-called hard variety, reinforced by elements of Awdiejew's conversational grammar, and comparative method.

Results. Both health information needs and behaviour can be identified on Internet forums dedicated to health problems. Linguistic analysis of online forums can give very interesting results and clues that cannot be obtained using questionnaires or personal interviews. It seems, however, that it should never be the only method used in investigating this matter. Since there are several intervening factors that may distort reliability of findings, determining whether we are dealing with real or created needs or behaviour requires confirming the results of the linguistic analysis of the forums using other methods.

Key words: **health information needs, health information behaviour, Internet, social media, depression, public health**

Słowa kluczowe: **zdrowotne potrzeby informacyjne, zdrowotne zachowania informacyjne, Internet, media społecznościowe, depresja, zdrowie publiczne**

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Introduction

Knowledge of people's health information needs and information behaviour can be used in planning health interventions in a way that they would meet people's needs as accurately as possible and reflect how health information is acquired and processed. It may also be helpful in creating resources and programs used to improve the level of health awareness, both very important from the public health perspective. Information needs and behaviour (terms explained below) are usually tested by asking questions to the representatives of the category of people that is of interest to the researcher. It is typically a poll conducted using questionnaires or individual or group in-

terviews, and so using data collection techniques where researchers cannot entirely avoid their impact on the subjects. Until the large-scale expansion of social media it was very difficult to study comments that would be spontaneous and completely independent of the investigators. Before, it was only possible to analyse texts/journals written in past or texts/journals written at the request of researchers, and therefore somehow stimulated [3, 6]. Only after the development of social media did the availability of natural expression – uninfluenced by researchers – change significantly. Posts published on the Internet on various forums, blogs, discussion lists, Twitter, have become a matter of interest to researchers [8, 9], also in the area of health [10–13]. Searching the Polish Medical Bibliography we found several research papers where contents of web forums or blogs were analyzed [14–17], and in the Medline database – a few dozen. While just a few, there are also papers whose authors seek to answer questions related to health information needs and information behaviours of the studied groups, more often than not, however, they refer to health needs [18–22]. Most commonly, these studies contain a quantitative text analysis, using programs such as NUD*IST or N-Vivo. Nevertheless, there is a small number of papers analyzing the fundamental issue; namely, whether the forums in general may be a credible and scientifically useful empirical resource [23]. In fact, this objection can be found in the literature [24].

By examining health-related information needs and behaviour as well as medical treatment or use of the health care system, one can learn about deficits within health competencies and health information competencies that are key to them, also about meeting medical care needs, as well as ways people deal with those deficits.

Aim and hypotheses

The aim of this pilot study was to analyze the usefulness of online forums as a source of scientific knowledge about health needs and information behaviour of people, which could then be actively used in the area of public health.

The analysis covered contents of only two online forums used by individuals with mental disorders. No generalizations should therefore be made based on analysis results; however, they allow for some initial identification of the research field. The choice of this particular kind of forums was dictated by the following rationale: 1) diseases and mental disorders are major public health problems. Nearly a quarter of the Polish population are affected by them [25]; 2) mental health disorders are a taboo subject. Therefore, it is likely that users can anonymously reveal needs and behaviour on online forums that they would not reveal elsewhere; 3) on Internet forums you can follow people's comments for a long time.

In the study described herein, the following research questions were asked:

1. Can specialist Internet health forums be a useful empirical resource for identifying information needs of their participants?
2. Can specialist Internet health forums be a useful empirical resource for identifying information behaviour of their participants?
3. Are there differences in the expression of needs and behaviours between forums moderated by health professionals and forums where there are no such moderators?

Three hypotheses were proposed:

1. Health information needs can be studied and identified on Internet forums.
2. Health information behaviour can be studied and identified on Internet forums.
3. There are differences in the expression of information needs and behaviours between forums moderated by health professionals and forums where there are no such moderators.

Explanation of terms

The terms presented in this paper are understood as follows:

Internet forum – Internet form of a discussion group, used to exchange information and ideas via a web browser (*Dictionary of Polish Language PWN*, http://sjp.pwn.pl)

Information – "any factor that reduces the degree of unawareness of the examined phenomenon, allowing a person (...) to expand the knowledge of the environment and carry out a deliberate action more efficiently [26]".

Health information is information that relates to person's health, treatment or the use of components of the health care system.

Information need – "recognition that their knowledge is inadequate to satisfy a goal, within the context/situation that they find themselves at a specific point in the time" [27]. It appears when a person carrying out some task, considering a possible action or solving a problem finds that a lack of knowledge prevents them from taking further, reasonable steps. Information needs related to health and treatment are called **health information needs**.

Information behaviours – "is the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use" [28]. This includes identifying information needs. When studying information behaviour, the following questions are asked: How does the user formulate their needs, how do they search for information; does anyone assist them in completing this task, and if so, who; how do they search through specific sources of information, and what internal and external factors affect these processes? Of interest are also factors motivating behaviour and the way they are affected by individual characteristics as well as the impact of the environment [29].

Health information competencies – "a set of skills needed to: accept the need for health information, identify possible sources of information and use them to download relevant information, assess the quality of acquired information and its application in a particular situation as

well as to analyze, understand and use this information to make decisions beneficial to health" [30].

Material and methods

***Material*:** The contents of all entries (posts) of two open Polish online forums dedicated to mental health disorders in the years 2012–2015. One of the forums – FORUM PRZECIWKO DEPRESJI, hereinafter referred to as FORUM AGAINST DEPRESSION (http://www.forumprzeciwdepresji.pl/forum/) – administered by Servier Polska as part of the project titled Forum Campaign against Depression is moderated by a psychiatrist. The other analyzed forum – DEPRESJA hereinafter referred to as DEPRESSION (www.gazeta.pl/forum/f,99,Depresja.html) – functioning on the Gazeta.pl portal, was not – in the period of the study – officially moderated by a specialist doctor. A total of 1,575 entries were analyzed (FORUM AGAINST DEPRESSION – 566, DEPRESSION – 1,009).

***Method*:** We studied the contents of two open forums devoted to depression, which topped the list of Google search results containing the words *forum, depression* (*forum, depresja*), and so at the start of the research project they were the best positioned Polish sites of their kind on the Internet. The material (the total of entries) from both forums was copied manually into the text editor, providing a body of text to be processed. The analysis of comments published by forum users was carried out using a set of mixed methods, including: a formal (quantitative) analysis of the material using the tools of computational linguistics (QDAMiner Simsat), inductive theme analysis EMIC, in the so-called hard variety, reinforced by elements of Awdiejew's conversational grammar, and comparative method [1,4]. Using the EMIC method combined with Awdiejew's elements of conversational grammar, was dictated by the intention to establish whether the forum participants articulate their information needs associated with the illness (their own or someone else's), and possibly to categorize these needs. It was also investigated whether the way forum participants get their information and what they do with it can be ascertained. We selected forums open to the public to bypass the procedure of obtaining approval for the analysis of comments, which could affect their content [31].

The study was conducted in several phases. Stages 1 and 2, realized using Simsat in tandem with QDAMiner, included a quantitative assessment of material aimed to determine whether it exhibits useful characteristics for the analysis of health needs and information behaviour. Stage 3 was to analyze the content of the collected material using QDAMiner functions. In stage 4, we compared the results obtained in the previous step for the material derived from the DEPRESSION and FORUM AGAINST DEPRESSION forums, respectively.

Stage 1. Formal parameters of the test material were determined with Simsat, a word frequency counter (a tool that automatically measures the frequency of preset words or phrases) in order to confirm that the extracted content of online forums coincides with the theme of mental health disorders. The verification was carried out as a precaution to make sure that the material does not demonstrate excessive theme scattering. The cut-off point was established at a frequency equal to or higher than 3,000 word occurrences. The analysis excluded conjunctions and particles. The resulting list of 11 words in polish (Depressi*, Doctor*, Medicine*, Mental*; Therap*, Antidepressant*, Anxiet*, Sleep, Disease*, Psycholog*, Mood*) was compared with the results obtained from the reference National Corpus of Polish (NKJP) (www.nkjp.pl), and we found that all the lexems are significantly overrepresented. It was thus demonstrated that the material analyzed clearly displays features of a thematic material (relating to mental problems) with a high degree of uniformity.

Stage 2. Again using the Simsat program and Aleksy Awdiejew's nomenclature, the density of operators realizing the functions of action was measured, in particular the operators of soliciting, readiness and resolution [1]. The analysis yielded frequency lists of individual operators, and comparing the data with the results obtained from the reference corpus of NKJP, it was found that words and syntactic structures used to express a request, solicitation, invitation, encouragement, or urging the recipient to do something that would be consistent with the intention of the addresser, were overrepresented in the material. A similar pattern was observed in previous studies of online forums devoted to depression, and it was interpreted as an indicator of a strong self-focus of addressers (autotelism), testifying to a high level of cognitive and affective uncertainty, which – in turn – through verbal activity in the forums translates into needs expression (in the ordinary sense of the word) and calls for support [32] that exceed the standard frequency.

Stage 3. The next step was to determine theme distribution in the content of the studied forums. To measure that, the EMIC method of content analysis was employed, assuming an inductive approach, and therefore categorizing the material solely on the basis of overt linguistic content of the comments posted by forum users, without applying any typological criteria imposed by the investigator.

Both forums were treated as living cultural environments created *ad hoc* by the varying, makeshift community of people who want to communicate about their mental well-being. This follows from the EMIC definition of thematic analysis: "An 'emic' account is a description of behaviour or a belief in terms meaningful (consciously or unconsciously) to the actor; that is, an emic account comes from a person within the culture" [7]. To reduce the degree of arbitrariness in extracting thematic categories from the material, which is inevitable in a study of discourse, the tools of conversational grammar by Aleksy Awdiejew were implemented. It was assumed that the material downloaded from the analyzed forums met the criteria for conversation, that is it constitutes "(...) a number of sequences of speech acts aimed to realize the strategic intentions of each of the interlocutors, who (...) seek to achieve their communication objectives" [1]. The basic units of a study of conversation that are also minimal sections of an interactive sequence

are adjacency pairs of two speech acts, where the first is a stimulus starting a dialogue, and the second is the response to this stimulus [1]. Conversational grammar serves to detect and describe the types of speech acts, as well as determine the overall goal of communication sought by the addresser, while this analysis is superficial and does not have the power to reach subjective intentions and motivations of the interlocutors, emerging in their mental sphere [2]. In practice, resorting to the tools of conversational grammar was based on the fact that the guiding principle of the material's theme categorization was assumed to be the presence of an adjacent pair of language exponents, the so-called action functions that according to Awdiejew: "have to rise to an executive commitment between the addresser and the addressee in relation to the implementation of a specific action that is beneficial to the addresser, addressee or all interlocutors. The condition of benefit is one of the typological elements that allows distinguishing different kinds of functions, because it concerns the addresser, addressee or persons associated with either of them" [5]. As a result, clear disjunctive thematic categories composed of statements were created, in which (at the language level) the addresser's intention of inducing the interlocutor to make a reciprocal language action, aimed to meet the need for gaining some benefit, was clearly set apart. At the same time, in view of the cognitive potential of conversational grammar and features of the tested information environment (open forums), it was stipulated that:

- intentions expressed in the language of the studied messages do not necessarily correspond with the profound subjective intentions understood as psychological facts,
- the need to obtain some benefit expressed in a given speech act does not necessarily correspond with the actual information need of the speaking subject, be it conscious or unconscious (e.g. the public question asked on the forum does not necessarily reflect the actual gap in the knowledge of the addresser or may even conceal it),
- regularities in the ways of communicating that may have been revealed in the material cannot be regarded as indicative of the verbal activity of people with depression, because it is unknown what percentage of users of both forums are patients with a clinical diagnosis of depressive disorders,
- despite the fact that – by mere analysis of the linguistic material – it is impossible to discover the deep intentions and actual information needs of the users of both forums, it should be assumed that the themes of the published posts are a sufficiently probable illustration of the users' deficiencies or other anomalies in the information economy regarding their own mental well-being; therefore, the speech acts realized by the participants, which – from a purely formal point of view – urge the other callers to respond verbally, and in many cases directly to provide specific information, they can be regarded as the expression of information needs, and as a manifestation of information behaviour.

Stage 4: In the last phase of the study the comparative method was used to verify whether based on the previously conducted analysis of the material, any differences can be identified in the expressed type of information needs and the course of users' information behaviour between the forum where there is no doctor fulfilling the role of the moderator and the forum moderated by a doctor.

Results and discussion

Forum entries have been unaltered but for typing errors, corrected in order to facilitate reading. Apart from that, the original entries have been preserved.

Information needs

It was found that the analyzed discussion forums devoted to mental health disorders are a place where health information needs are expressed. These needs can be extracted from descriptions of experiences/symptoms posted by the users, who involuntarily reveal those needs, or from descriptions of symptoms or experiences, where there is a tangible intention of obtaining a comment (response, advice) from the forum's co-users.

Below are categories of speech, selected in the course of the analysis and considered probable signs of the users' knowledge gaps, and so a likely reflection of their information needs. The different categories are ordered according to the frequency of their occurrence in the relevant material, but due to the limited range and distinctive nature of the test, this sequence must be regarded as conventional, not intended to address any proven regularity. Conversational exchanges between participants on both forums focused on the following themes:

- dosage and combination of drugs (example: *Hello, I have a question… Is it OK to combine these two drugs and are they used to cure the same disease? I'm also interested to find out their effect on a person that's mentally healthy, what damage can it do to the body? I am asking specifically about Rispolept [2 mg] and Zolafren [10 mg]*),
- pharmacokinetics and adverse drug reactions, among other weight-loss drugs, contraceptives and hormone therapy drugs taken posterior or prior to gender reassignment surgery (example: *After 8 months of taking the antidepressant, I have been down in the dumps for two or three weeks now. First I was OK taking it, but now I see I'm feeling worse and worse, and at a surprisingly fast pace. I do not sleep, and even if I manage to drop off, 3.30 a.m. is the "zero hour", and the morning is a nightmare, no need to write more, I think most of you know what I'm talking about. My question is: How is it possible that first it was OK and then I hit the bottom? Did the drug stop working so suddenly? Is that it? / Hello! For two years I've been taking Valsacor [320 mg], Amlozek [2 x 10 mg], Lokren [2 x 20 mg], Doxar [3 x 8 mg], Controloc [40 mg], Spamilan [3 x 5 mg] on a daily basis. For some time I have been feeling pain on the right side of*

the abdomen, under the ribs. Should I have my liver examined? Thanks in advance for your answer / just stopped taking androcur because of the hallucinations and depression that followed :(. I was giving my husb a hard time cos I didn't want to even leave the house. Today I didn't take any and it's a little better…),

- requests for recommending a specialist / facility (example: *Does anyone know a specialist centre for victims of violence in childhood?*),
- requests for assessing the relevance of a psychological and/or psychiatric consultation or other forms of diagnosis (example: *Is it possible to do other tests in addition to talking to your doctor or psychiatrist, which would confirm or deny the "pseudo" mental illness? / I get exhausted suffering in loneliness. How can I help myself, did you feel similar reservations, will the therapist even want and know how to cope with such a closed and distrustful person? / I turn to you for advice… It's been half a year now that I've been wondering whether I should see a psychologist or psychiatrist. What stops me is the thought that perhaps I'm overreacting, I don't want to take up anyone's time for nothing. The problem is that it is increasingly difficult for me to function*),
- requests for an opinion on the quality of work of a physician or psychologist (example: *Does anyone know anything about Dr* [surname]? / [answer] *Dr* [surname] *has her office in* [street name] *(right next to* [name of institution]*). She is mainly engaged in treatment addiction, but almost certainly treats other diseases. I especially recommend that young people go and see her (I mean people say between 20 and 40 years old). She is a great person, very friendly and genuinely cares about the patient. An appointment costs 80 zł*),
- users' own symptoms (example: *Hey, I have a little problem, recently I've been feeling weak, passive, dead-beat. In the morning I can't drag myself out of bed, but then time flies, at work I'm feeling OK and can stir up some enthusiasm :). After returning home, I feel deflated and don't feel like doing ANYTHING :(. Could it be weakness caused by some disease, or perhaps discouragement, me being bored with the monotony of everyday life? Have you ever felt like that? What did you do to fight it? Any sugg? :) / Doctor, for several years I've been struggling with derealisation and depersonalization. I had a depressive episode, I felt slightly better taking Venlafaxine, the antidepressant – it decreased derealisation a bit. I've recently had a lot of stress and derealisation greatly intensified. I feel as if I were daydreaming, I know what's going on but I'm kinda isolated, as if I were observing and not participating. How can I get rid of it completely? Are there any drugs to fight it? Please help. / Hello, in December due to dehydration I experienced nystagmus and dizziness. Since then I've been really scared of leaving the house. I focus all my attention on myself, on how I walk, the way I turn my head, I'm afraid of dizziness. This made me so hysterical that my neurologist prescribed me Bioxetin. I've been taking it for two weeks and I'm a little calmer, but I'm still not ready to leave the house on my own, all the time I'm thinking about what happened to me, I can't enjoy anything, I'm not interested in anything. The greatest fear of attacks occurs in shopping centres. I don't know what to do, maybe I should go and see a psychiatrist? I want to be like I was before, happy. / Good morning, for a long time I've been suspecting that there's something wrong with my behaviour, thinking and actions. More and more often I cry for no reason or for whatever reason. I get nervous easily, impulsively, I scream. [...] These days I commute 40 km to work, crying, or I don't go there at all, it's often due to my reluctance, unwillingness, even though I need the money. My mother suffers from depression and anxiety, which used to impact me too and my brothers and sisters, before she underwent treatment. I'm overwhelmed by my parents' financial problems, me being unable to help them. I used to fulfil my mum's dreams and ambitions, ignoring my own aspirations, I felt that I was not good enough. I have no sense of self-worth in terms of being helpful to anyone, I feel hopeless, lonely, useless. I know how my mother's illness reflected on me, and I'm afraid that if there's something wrong with me and I don't treat it, it will affect my family*),
- mental disorders comorbid with other diseases – the sample material contains entries where depression is mentioned in the context of fibromyalgia, dementia, Hashimoto's disease, alcoholism, bipolar affective disorder, borderline personality disorders.
- mental health in the context of procreation (example: *During pregnancy I was prescribed Relanium [supposedly a safe drug]. I had strong contractions when I experienced the same attacks as the ones you describe [choking, numbness, shortness of breath]. Starting from the 25th week of gestation I was getting treatment to maintain my pregnancy because of intense panic attacks and anxiety. I tried to take Relanium as little as possible, but when it took hold of me, I didn't hesitate to take a dose. I didn't want to give birth at 25 weeks of gestation. / I have a question to the women who visit this forum and when pregnant had to take antidepressants – was the child born healthy? I'm asking, because my husband and I are trying to have a baby, so a few months ago I stopped taking ant. with the intention of becoming pregnant, unfortunately I had a relapse and returned to the medication which of course makes me feel good, but I don't know what can happen if I get pregnant – do I have to stop taking it or minimize the dose? What are your experiences in this matter?*),
- symptoms of withdrawal syndrome in pharmacological treatment of mental disorders (example: *How to discontinue treatment with Lorafen or change the medicine to another?* / [Answer] *I would recommend switching to Seroxat + Xanax the first 2 weeks of taking Seroxat. Take half a pill once a day for 7 days and then increase the dose to one pill and continue. Xanax should be taken in the evening before bedtime,*

start with 0.25 mg and if ineffective, increase the dose to 0.5 mg. Remember to take Xanax combined with Seroxat for only 2 weeks and then discontinue. / Does anyone know how long it takes to completely eliminate Mianserin from the body? I took it for almost six months, discontinued more than a week ago, nothing unusual was happening [tinnitus and dizziness, but only for two days], but at the moment my stomach aches and I'm not sure whether it's due to withdrawal systems after discontinuing Seroxat, which I've been taking for over 2 months, or maybe it's the same stomach discomfort I experienced six months ago, let me just say that while taking Lerivon it disappeared completely, in fact, I had a huge appetite and put on weight :(. I don't know what to think, maybe I should start taking it again, a minimal dose?),

- reliability of independently performed tests of mental health (e.g. Beck Depression Inventory) (example: *Is 27 points a high score? How reliable is the test? Since the symptoms of depression have been decreasing for two years now, is there a chance that I can handle it on my own? /* [Answer] *Yes, you could say that about anyone, but this is the BDI thread. But if you say that, you can't tell that the Beck scale assesses mood. It doesn't assess anything. On the Beck scale people have to tick off 21 or so sentences. And that's it. Recent studies have shown how idiotic that scale is, as I said before. I'm terrified that people get so 'thrilled' by the results. So what, if you got 20, 30, 40 pts. on the scale, even if you get 0, you are depressed, so there is nothing to get excited about*),
- requirements for incapacitation due to mental disorders (example: *My parents have died and I should receive inheritance. Unfortunately, not only me. My sister is mentally ill. For 9 years she has been treated for anxiety and depression, and f... knows what else. She doesn't work, doesn't do anything. Can I incapacitate her [she can't cope at all] and manage her assets as her next of kin? So that she wouldn't have a say. How can I do this, does anyone know?*),
- requirements for obtaining an order of compulsory psychiatric treatment (example: *Somewhere in the forum I read that it is possible to submit an application for involuntary treatment at the local mental health clinic. Apparently it can be submitted if the person's behaviour is a threat to their own life or health, or that of other people [family]. The application should include everything that worries us, and nothing should be omitted. Later the director of the clinic decides whether to take the matter to the courts, asking for compulsory treatment. Previously, however, the patient gets two registered letters from the clinic, asking them to show up for consultation. If they don't do it, they're taken there by the police. Perhaps someone knows if it's true that such an application can be submitted at the mental health clinic, and if so, how should it be formulated? Is there a model of the application form available?*),
- conditions for sick leave due to a depressive episode (example: *How long can you be on a sick leave due to endogenous depression or any other form of depression? mental illness?*),
- natural ways of combating insomnia (example: *For some time I've been unable to sleep, I fall asleep for 1–2 hours at 3 am. I'm at the end of my tether, both mentally and physically. The reason is stress [I'm going through a divorce]. I beg you to advise me, can I get something to help me sleep in the pharmacy, no prescription, what should I do?? Please help…*),
- general questions such as: "What should I do?", or requests for support (example: *I want to know if I can handle it on my own, and it will pass, or maybe I should ask the psychiatrist for help. Thank you in advance for any suggestions / My child, a young adult, has depression. I would like to help him without hurting him. I don't know how to act in spite of the many publications I read. I have no strength to fight for his health anymore, he doesn't trust me, I still know nothing about him. All of this is speculation based on my observations. He's undergoing treatment, goes to therapy, is making an effort to get better, but it is so hard to deal with all the problems. We're hardly coping, we are tired, sometimes we get irritated. We want it to be like in the past, we didn't realize he was ill, he has always been so, it was his nature, didn't admit he had such huge problems with himself and the environment. We need support, we can't cope anymore. I didn't find anything for families affected by depression that could help me in the exchange of experience, soon us ourselves will need therapy and a psychiatrist. Help families who have a sick family member. I would be happy to write to someone who has experience in this matter, who can advise how to go through this and not fall into depression*).

There are occasional entries where forum members ask for a recommendation accompanied with a brief justification (example: *Please recommend some psychotherapists, but do include some description.... Maybe I'm too demanding? I don't know, but I really have to do something, and I don't want to get discouraged again, nothing has changed for several years now. I will be very grateful!*).

There are also entries regarding difficulties in interpreting information and putting it to practical use. Patients sometimes report disappointment in specialists who – often as a result of their media appearances – enjoy the celebrity status. Although they seem to trust the recommendations obtained from experts, they use the forums to discuss it and obtain additional information, filtered by the experience of other patients and dependent *not* solely on the strength of professional authority. Here is an example: *Can you write more about Ms.* [surname]*? I was referred to her by two psychiatrists, independently of each other, I'm convinced she's good since she's recommended by the professional community. But you can never underestimate a patient's opinion. I got my fingers burnt – when I lived in Warsaw, I went to see a specialist, a very well-known media personality, and it was such a failure. She suggested getting onto first-name terms, she hugged me and gave good advice. Sorry, but it seems*

to me that this is not how a professional should behave. Regardless of how nice she is and her TV work, the therapy was ineffective. In addition, sometimes she was late, even 10–15 minutes, and at times she receives private calls during therapy. Later I came across some orthodox psychoanalyst whose face was like a mask, it seemed that I was being treated by a cyborg rather than a human being. Please write about Ms. M. Does she maintain boundaries, is she professional? Does she arrive for sessions on time etc.? Also, does she act like a human, or wears a mask? And – if you can – say how exactly she helped you, what changes you noticed and how long it took until you noticed them? I will appreciate an answer – I read this forum and I could see your comments, they're OK, so I believe you have experience in this area. Best regards.

These entries may indicate insufficient competence of their authors, but also awareness of their own limitations. Questions or requests are an often indirect expression of the need for authority, or the need to use a reliable source of information (example: *Warsaw – please help! i have read a lot of posts in this thread and I've had enough, I can't see who is truly recommended and who is self-advertising, I've googled several people and I'm still stuck. And I'm looking for a therapist! I've already had two failed therapies, I need someone specific – I don't know much about the different approaches – probably behavioural or short-term therapy would be best ... but I'm not sure / They have this beautiful advertisement on the main page of their service ... "Antidepressant Phone Forum Against Depression". Fat Thursday ... apparently too much of a Fat Thursday for them to pick up! If someone makes a bad first impression, I don't give second chances. I'll look for help elsewhere. Regards*).

Information behaviour

In the analyzed posts forum users report their information behaviour, that is, say how and where they search for the information they need, say that they evaluate it and that they have difficulty with this assessment.

Information behaviour on the DEPRESSION forum is more clearly presented than on the FORUM AGAINST DEPRESSION, because the list of topics in the former has – among other things – headers targeting users' statements, e.g. the headline: "White list of psychologists, therapists and psychiatrists", where its founder announces that *In this thread all information is included about verified and commendable therapy centres, psychiatrists and psychotherapists – collecting these data in one thread facilitates finding the right centre or doctor for those seeking psychiatric or psychological help*, and encourages other users to enter names of localities.

On the analyzed forums you can learn:

- to whom the participants turn for information / help and who they recommend. There are specific names of psychiatrists, sexologists, personal coaches, yogis, coaches and wellness trainers. On both forums more than 400 names of experts in these areas were mentioned. Forum users either have a general question, for instance *looking for a good specialist* [name of discipline] *in* [name of town] and wait for answers, or make a direct query about a particular person or facility (example: *Psychotherapy clinic – urgent! Maybe someone knows and can recommend a verified clinic where they offer temporary support for depressed people with low self-esteem. V. urgent, my friend needs immediate help!*),
- that the participants consult their family and friends about the problems. Sometimes, these people are presented – either with an explicit or implicit tone of complaint – as useless in resolving the problem (example: *I tried to talk about it with my best friend and my twin sister, terribly difficult for me to admit it, the more that they didn't seem to understand…*),
- how the participants seek information about specialists (e.g. using services of public and private health care institutions; recommendations given by doctors they already know, search engines such as Google; Internet forums) (example: *I'm looking for a good centre for treating depression... Maybe you could recommend something? /* [Answer] *Check out www.depresjastop.pl, I have a high regard for them, they may be unconventional, but I know many cases where long-term 'conventional' treatment turned out to be ineffective. Long-term psychotherapy often fills the therapist's pocket rather than doing good to the patient's health… I emphasize that I didn't take part in the workshops offered there, I only came across the portal and read their book, which is really OK. I wonder what others think about these coaches, maybe someone attended the workshops? / Check this link:* [address of the "White list psychologists ..." in the DEPRESSION forum of Gazeta.pl], *maybe this list will be of help. (It wasn't helpful for me, but maybe because I don't live in Suwałki or Białystok :). Regards / J … N … I recommend them. 100% certain. Their phone number can be found in local newspapers, where they advertise their services, or on the poster advertising their office at Giełdowa St. If necessary, I can give you the phone number*),
- where the participants seek knowledge about their health problems (example: *I've been reading a lot on the Internet about the symptoms of depressive disorders, and decided that I'm not quite all right / Unfortunately, only for those speaking English, there's no Polish translation: www.goodreads.com/book/show/2698726-how-sadness-survived. It's a popular science book about the evolutionary basis of depression – a very interesting read. But it has some therapeutic value too, because it helps to understand that in most cases depression is a natural and necessary process, allowing you to realize that you're going through a period in which it is worth slowing down the pace of life and examining yourself*),
- which medical and therapeutic centres the participants recommend and use (example: *The clinic for victims of violence B … 4 is a very important place for people who are depressed due to past violence. There you can receive counselling, psychotherapy [also learn mental self-defence] and psychiatric help*

[as well as legal advice on social welfare]. The psychiatrist is very good [cannot remember the name, but there's only one], he really wants to help. There are also specialist psychotherapists treating victims of sexual violence, which is very important. Myself I've been seeing a specialist who has specialized in this field for more than 8 years. For victims of sexual violence; I also recommend this website: www ... pl, especially the support forum – it's helped me a lot and many other people in difficult times [what's important – it'll push you towards therapy, but not replace it]),

- about self-proclaimed 'healers', who express their own views on the etiology of depression, as well as propose remedies to the associated symptoms without quoting any sources (example: *Depression is caused by inhaling a VIRUS that impairs the immune system. This not only reduces the psychological resistance, causing depression, but also the resistance of the entire body. You can also develop allergies, infections, obesity, especially abdominal, visual impairment, diabetes, hypertension, heart problems, dizziness and fainting and even cancer. The virus can be easily removed from the body, and destroyed immune structures can be rebuilt, depression disappears COMPLETELY. If someone is having suicidal thoughts, call this* [number]).

Verbal exchanges between forums participants often have polemical overtones. Some utterances are accompanied by justification, other are not. While in the latter case, the entry only contains referral data, name, address, phone number, website address, and sometimes even an advertisement of the centre/specialist, in the former case, a deeper analysis of the exchange makes it possible to learn more about the beliefs, shared values, information competencies and health competencies, as well as behaviour of their authors.

Justified recommendations or opinions usually include:

- assessing the quality/price ratio of the consultation (example: *and so I lose a hundred zloty for each visit, even when I just need a prescription*),
- assessing the consultation cost and raising it in the course of treatment (example: *not recommended. She's a fraud – increases her rates in the course of treatment, when she sees the patient is well-off*),
- assessing treatment effectiveness (example: *I recommend her services, she's helped me a lot, helped me battle depression / she knew how to get to my children*),
- assessing pharmacotherapy treatment (example: *She's selected the right medicine / that lady knows nothing about pharmacotherapy*),
- assessing the education of the doctor/trainer (example: *A fraud, former drug addict, she's no psychologist, she's still studying, yet claiming to be a great psychologist / I was there, even their military chaplain studied psychology!*),
- comments on the diplomas, specializations and certificates (example: *Having seen a different therapist – a certified psychologist, rather than a person who's done some courses – there were some immediate effects / she practises psychodynamic therapy / specializes in addictions / treats couples*),
- assessing professionalism (example: *At every consultation, she has a different vision of treatment, lack of professionalism / she sets an aim and is working towards it, a kind of contract work / according to Ms. Izabela [...] for years I wasn't ready to end therapy. [...] Izabela wasn't able to determine what results would indicate the possibility of a gradual termination of therapy. Although the therapy didn't yield any tangible results, she didn't suggest trying to work with another professional. I think that it would have been fair*),
- comments on gender (example: *I need to find a good psychiatrist in Wrocław, preferably a woman*),
- assessing the attitude to the patient (example: *supportive / understanding / patient / can create an atmosphere of security, trust and mutual understanding*),
- assessing integrity (example: *A fraud [...], herself she writes the opinions about her work and posts them on the forums / luk123 recommends* [doctor's name], *supposedly she is the best psychiatrist in the world. However, if someone has a real problem with their mind, which impacts their everyday life, all the medicine prescribed by Ms.* [doctor's name] *doesn't help, and when it comes to the selection of drugs, the patient feels like a guinea pig serving someone who's totally incompetent. In such cases, it's not enough to talk, because it isn't a question of getting muddled thoughts, but a real mental problem, with which the 'wonderful Monika' can't cope. What she does cope with is getting more and more one hundred zloty notes – every subsequent consultation planned in order to change the medicine, is worth PLN 100 of forced tribute. Yes, forced tribute. I bet that she's not paying taxes*),
- assessing the availability, convenience and provision of services (example: *She sees her patients in a private consultation room three times a week / she consulted me in the hospital at Polna Street, and later in her private consultation room / even late in the evening / accepts National Health Fund patients, the queues are not so long / sessions via Skype, direct consultations and emails, none of my e-mails remained unanswered*),
- opinions presenting general assessment (example: *good / reliable / accurate / kind / zero panic / kindest woman / quack / this guy is hopeless / he is a therapist who's passionate about his work, a combination of a strict, logical and analytical mind with empathy, understanding and imagination*).

Forum members also discuss the need to verify the competence of professionals in the field of mental health (example: *Psychologists must be verified. it's a profession like any other, but since this person is entrusted with the most intimate details of our lives, they must be 100% competent and loyal / I'd like to encourage everyone to check the qualifications of therapists, especially if you suffer from some serious disorders, and to try to cooperate with other specialists if the treatment isn't bring-*

ing expected results! Good luck! :)). On the one hand, it demonstrates that the authors are critical and cautious, on the other hand, however, they do not provide rational guidelines on how to assess the expertise of specialists, limiting themselves to checking reviews on other forums. It should be added, though, that in the discussions on the criteria for the selection of specialists, the Gazeta.pl forum members repeatedly pasted a brief guide titled "What should you know about choosing a psychotherapist or psychologist? How to choose a good psychologist or psychotherapist? 20 things you should know (!!!)", published on the Facebook profile of the Association of Family Psychologists and Psychotherapists. Individual points of the guide, although in line with the standards of the sector-specific knowledge, were undermined by some of the participants (example: *Jola… part of what you write is harmful nonsense, especially the fourth point, but not only. The psychotherapist doesn't give opinions and diagnoses, and psychotherapeutic services can be provided not only by a psychologist, but a person with a higher humanities or medical diploma or one who's done a course in psychotherapy – a philosopher, sociologist, educator, doctor, etc. And how come there's no mention of compulsory clinical supervision, huh?*).

The authors of entries look for indications demonstrating that a doctor or other specialist advertises their services under cover of anonymity (example: *This is one big ADVERTISING THREAD! Real recommendations are few and far between, all the rest is written by paid canvassers. You should be ashamed to deceive people, write that you experienced depression, anxiety, and God knows what else. I wholeheartedly wish that all those hyenas experience mental illness and confusion firsthand when trying to find a specialist*). Public disclosure of such suspicions on the forum is aimed at reducing the risk of encountering manipulated information and can be considered an expression of concern for their own safety and that of others. Forum users also warn against the 'tricksters', who are commissioned to recommend the services of specialists, pretending to be patients (example: *What vested interest do the canvassers have in recommending a psychiatric office? Has anyone heard of leaving a psychiatric office without a prescription?*).

What is also investigated while analyzing people's information behaviour is what encourages them to search for and analyze information, and what motivates them to perform this kind of activity. These incentives are called mechanisms activating information behaviour [29]. Did the test material give insight into these stimulating factors? In the analyzed sequences of expression at least two driving forces can be seen, namely the desire to return to the former ("old") self, sometimes through a direct expression of guilt that the old 'former self' was lost (the desire to put an end to anhedonia, regain a sense of identity and control over their lives), and the desire to overcome indifference and skepticism of the people in their surroundings by showing that the disease is a real and debilitating affliction rather than a harmful whim, which the patient uses to mask their laziness and general awkwardness. In the latter case the point is to legitimize the disease, to be empowered first as a patient, and then as a patient with a right to receive treatment, even if social conditions are such that to be recognized, you have to scream very loudly, and perhaps even to self-annihilate. These two trends are illustrated by the following examples: 1) *(...) it's easy to get rid of friendships and expect God knows what on the forum; since I left the duplicate I've been trying not to wail too loud, I thought that being cocky on the internet would improve my well-being; the lesson I learnt is this: you have to wail as hard as you can – you need to wring your hands – stop leaving the house – gobble up medicine – use tonnes of tissues – lose your job – have a suicide attempt – and, what's best, break up into a million pieces; if you don't, there'll be people who want to prove that you're a bitch having fun on the forums at the expense of others. And others who will be surprised that you're not over the moon about what you have. At home they'll tell you that you're an antisocial outcast because of your pure malice and laziness; I'm not sick enough to satisfy you, or healthy enough to satisfy the people in the real world; at least my dog still likes me,* 2) *I have a wonderful husband who keeps me company, is close to me, supports me, helps me. But I have a great sense of guilt towards him and my son because they have to be part of what I'm going through. There are days when I think it will get better. But unfortunately there are also days when it seems to me that I can't make it anymore, that it's too much. Every morning fills me with horror, and I ask myself the question – what is today gonna be like? Will I make it through the day? Am I gonna hit the bottom again? I want to get well for my boys, I want to be like I was before. I don't know what happened to the old ME. Everything that's happening to me causes me great pain, depression, guilt – the fact that it can't be as it was. That I can't be as cheerful and full of energy as before. When I think of how I was a few months ago, I see a woman living life to the fullest. I miss her very much. And then come those thoughts about all these unsolved matters, things I haven't made. For me it is unthinkable. Thoughts are swarming in my head, sometimes I can't handle them. I feel like I'm losing control over everything. And there's chaos and fear. Sometimes I want to run away. But I have my boys, they pull me up, console me. I hope that I'll find a way out of this. I will, right? Regards. M.*

There is another motivation, namely the willingness to express views in a safe place – elsewhere they would put the authors at the risk of alienation, if not ostracism – and using the uncompromising language of emotions, metaphors that break social taboos. Here is an example: a woman writing about her feelings when pregnant: *I'm pregnant. Please don't refer me to the pregnancy and childbirth forum, or such like. I was there. I felt like an intruder among the expectant mothers getting excited about the ultrasound, dates, preparations. I'm not thrilled about the prospect, I'm not happy. One of my friends told me – you'll look beautiful, sexy. And I want to say: "F ..., first I'll look like a porker, and later as a suckler cow, completely asexual, chained to the trolley, waddling at a speed of 500m/h)". Others congratulate:*

"What a beautiful time of your life, a baby … you have so much to be happy about". And I think: "The end of my life, the end of free choices, dedication, responsibility beyond my strength, fatigue, helplessness, dependency". Others say: "You need to see a doctor, go shopping, you need to have nice clothes, for yourself, for your child, redecorate the apartment, find a birthing school, and so on." And I'm just livid … It all costs, why so much, why is it such a business – it doesn't serve anything, neither pleasure nor joy, nor health, and it costs. [...] Is it really going to be that way?

The impact of moderator on the comments posted on the forums

A comparative analysis of the contents of both forums showed that there are some differences between the forum moderated by a doctor and that without a moderator (**Table I**).

Both forums contained comments revealing all categories of needs, divulged both directly and in a camouflaged way. Therefore it seems as if the moderator did not affect the kind of expressed needs and described behaviours. The difference between the two forums is based on the intensity of responses to published statements. While on the unmoderated forum up to 64% posts were not commented upon, on the moderated forum, the users obtained an answer in 100% of cases (93% were answers to the implicit or explicit questions, 7% were statements about the inability to give a clear reply to the statement of the member due to absence of sufficient evidence). Questions were answered by both forum participants and the moderator. The following can be attributed to the presence of the moderator:

- lack of threads finished inconclusively, i.e. giving advice, expressing a professional opinion or any statement that – from a pragmatic point of view – indicates the exhaustion of the conversational exchange and its termination,
- lack of so-called incongruent interpolations, or explicitly nonsensical statements, deprived of a perceptible connection with the thread and previous comments, which can simulate or characterize an active cognitive impairment (obviously, this cannot be established in this study), e.g. *search for it PAYS VERY WELL make atonement even as someone described MENGELISM and are accounted for separately at the same time –silence who raped you soul never really pays off / peanut ... spilled! Everywhere I see pills, peanut, I'm scared now, everywhere I see those, AVE Caesar, what's gonna happen?*,
- greater detail and better logical organization of entries initiating the thread: linguistic analysis of posts published on the FORUM AGAINST DEPRESSION shows the prevalence of exponents of carefully composed written reports, which greatly facilitates the provision of substantive feedback for the doctor of psychiatry working on the forum.

Conclusions

1. Health information needs can be identified on Internet forums dedicated to health problems.
2. Health information behaviour can be identified on Internet forums dedicated to health problems.
3. With regard to the substantive content of statements, there is no significant difference between the moderated and unmoderated forum. The repertoire of threads and manner of verbalizing problems are very similar. From the point of view of a researcher of information needs and behaviour, and considering that the effects of verbal exchanges are unknown (not researched in this study), it cannot be established whether any of these sources is more reliable than the other.

Important concluding remarks

The pilot analysis of the content of the forums shows that this kind of spontaneous statements provides a very interesting, diverse and non-obvious knowledge about information needs and behaviours of their authors. Spontaneity, emotionality, but also anonymity of the posts enables us to get an insight into the area of needs and

Table I. *Comparison of formal characteristics of a moderated and unmoderated forum*

	DEPRESSION (Gazeta.pl) – no moderator	**FORUM AGAINST DEPRESSION – moderated by a psychiatrist**
Number of posts	566	1009
Average number of words in a post	28,9	88
Average number of sentences in a post	4,3	12,6
The percentage of posts remaining unanswered	64%	0%
Categories of statements	All	All
Needs revealed publicly / directly	Yes	Yes
Needs revealed indirectly	Yes	Yes
Reponse to the published post	77%	100%

Source: Own elaboration.

behaviours which probably would not be easily identified using a questionnaire or interview. We get a peek into the lives of the forum participants, their natural reactions, and often their intimate matters. They do not know that the researcher is observing them. They do not take the attitude of the study object 'posing' or 'teasing' the researcher. These emotions and anonymity that invites honesty make the picture richer, three-dimensional and variable. But does that mean we get to know the truth? Are the declared needs real needs? Certainly caution should be exercised.

First, the so-called sharp (pragmatic) variant of the EMIC method was used in the study, assuming that the tested language material is only an expression of what the participants say and how they say it, but it cannot testify to what they really think, and the intentions governing it, nor does it provide evidence that they actually take certain actions. This assumption stems from the cognitive, and consequently methodological, attitude inherent to pragmatic linguistics, which examines only the manifested content of the statement, without investigating the motivation, as well as without trying to predict the possible effects of these statements unless they are provided directly and can be explored. So the method itself limits us to the layer of verbal expression.

Second, the forum participants often have a problem with revealing their needs (example: *I feel awful and the worst is that I can't say that to anyone*). The difficulties are sometimes caused by:

- social anxiety (example: ... *in addition my husband accuses me of something all the time, looks at me with condemning eyes. I don't feel like cleaning the house, our daughter has caries. [...] I am afraid of people, keep pretending someone else and that everything is okay. People don't like problematic people like me, they have enough problems of their own, and I'm not good enough for anyone – that's why I don't have any friends*),
- shame (example: *I'm going to see a specialist because I can't cope with my horrible state anymore [...]. The trouble is I'm anxious about the visit because I can't talk about myself and I'm ashamed of what happened, I'm ashamed to admit it to another person. I've never told anyone about my problem, I'm a secretive, shy person and it's hard for me to talk about some facts of my life. Starting this thread was a true act of bravery for me, I feel that I need to talk to someone* ...),
- low level of health competence (health knowledge) preventing the formulation of the problem, or leading to the denial of the disorder in such *a* way that any failure/problems are attributed – with clear signs of culpability (guilt), only to their own character traits (example: *The worst thing is that I'm not sick, just messed up, my character is so fucked up. I need to talk to someone, and I don't have anyone. / I've always been a little oversensitive about illnesses but now I'm obsessed. I look at my child and I want to scream because I keep telling myself that I have some form of cancer and will certainly die soon. If something hurts me a few days in a row, I do a search on the Internet and self-diagnose cancer, later it passes but then I find it in another part of the body. I'm mentally exhausted, have anger outbursts, I can't enjoy anything. Please help!!!!!*).

On the one hand, this observation (difficulty verbalizing needs) points to educational and psychological needs, but on the other, it can distort the picture of strictly informational needs. This conclusion can be drawn based on the statement: ... *patients often prefer to swallow 10 tablets a day than to go to a psychologist for therapy. because, in my humble opinion, the problem is the man himself (and the way he's connected with his society and relatives), and of course sometimes drugs are recommended, but I think that Polish psychiatrists all too rarely talk of going to therapy. Myself I'm receiving pharmacological treatment, supported with therapy. and I find it more rewarding.*

The third reason for potential distortions of real needs and behaviours may be some other phenomenon. As we know from other studies, anonymous participants of online forums can create their personalities easily and without risk, wear a mask or adapt to the needs of others, especially those gaining the position of forum opinion leaders. Phenomena such as creationism and domination, cyberviolence or cyberbullying on online forums are well described in the literature [33]. It can be seen also on the forums analyzed in this study. Evidence was found for trolling/flaming, i.e. aggressive, unprovoked statements ridiculing the authors of posts. These statements demean others' statements or contain direct insults (example: *Why can't I go on the forum. Why has some lucynana.n blocked me? Interesting. What a scummy person? Kasssssaaaaaaa from the Schizophrenia forum on gazeta.pl, the same one. Jealous or what? About what? Some hag. / stop playing the f ... doctor! / get off, creep / but you're a crook – I didn't think you'd attack me that way. You know what? I'm not surprised that nobody wants to know you. goodnight! sure I insulted you, but I stopped and I apologized – now I'm p… off*). There are also statements by people that seem healthy, but pretending to be a person suffering from a mental disorder, who deliberately heat up the debate, lead it to a blind alley, and having done that, disappear from the forum or reveal the deception with derision (example: rzeznia_nr_5: *I'm taking the piss out of you. /* carlabruni: *And we're taking the piss out of you! you think we're on the receiving end, no way, sucker /* uri_ja: *you're taking the piss out of yourself, everyone can see you're just provoking others, and it's not f... hard provoking people, anyone can do it! I'm expert at that, talk to my husband! you're not a patch on me. you're an even bigger fraud!*). Statements of this kind can significantly affect others' response. Perhaps not all needs and behaviours disclosed by forum users are true. Some of them may be aimed at ingratiating themselves with the leaders, presenting themselves in a better light, awakening sympathy, hiding the real problems, etc. This assumption is the more legitimate – though not easy to prove unequivocally using the method adopted in this study – that in the content of the DEPRESSION forum on Gazeta.pl one can notice subtle signals of the existence of

local quasi-authorities, forged in the milieu, which could intimidate other users or otherwise modulate their verbal behaviour. The presence of these figures reveals itself only indirectly, and can be seen in that the user that has the supposed status of a quasi-authority – resulting from substantive reasons and seniority on the forum, or both – acts as follows:

- expresses spontaneous summary assessments, diagnoses individually noticed regularities, having granted themselves the right to do so. At the same time they allow themselves to bluntly invalidate the arguments put forward by other users who – by default – enjoy a lower status, for example: *It so happens that not every pregnancy is planned and sometimes it happens that a person that normally feels well experiences the first relapse when pregnant or relapse after years of remission. Then what, she should go and drown herself? Anyway, there's no point in writing with some stupid cow*;
- statements of this kind arouse applause from other members of the community who openly declare their adherence to the quasi-authority, for example: *Anyway, there's no point in writing with some stupid cow* / [comment on this statement:] *:DDDD Lucyna, I'm a big fan of your forum taglines :)) I have to start writing them down cos they're really good :) brief, concise and to the point :)) also funny :)) I love reading your texts :)*.

Assuming a different viewpoint, the same anonymity, the "security" of placing posts on the forum, may encourage honesty in revealing needs, even those considered to be shameful [34]. **Linguistic analysis of online forums can therefore give very interesting results and clues that cannot be obtained via questionnaires or personal interviews. It seems, however, that it should never be the only method used in the study of needs and behaviours. Determining whether we are dealing with real or created needs or behaviour requires confirming the results of the linguistic analysis of the forums using other methods**.

Can the analyses of posts published on mental health forums and described in this paper indicate that the knowledge derived from this kind of research could possibly be helpful in designing health interventions? The answer is yes. A linguistic analysis of statements provides insight not only into what people do and what they need (even assuming that it is all true and that not all speech acts formally expressing the information need faithfully reflect its essence), but also, and perhaps above all, into how they talk and conduct conversations. The language they use says a lot about their competencies, attitudes and beliefs regarding health or treatment, often very difficult to detect. Hence, it appears that the analysis of online forums can also provide valuable unobvious, often intuitive, knowledge of the target groups. In the present study, what certainly is of concern is that the forum participants do not seem to know reliable sources of information. They "google", ask people similar to themselves, have sketchy knowledge, coming from very diverse sources, they, most probably, do not ask themselves questions about its quality or credibility. This probably testifies to a low health information competence. Also for this reason, and the lack of knowledge and information skills, they feel helpless, alone in their problems with health, disappointed by lack of care.

Two forums analyzed here give insight into the narrow area of needs and information behaviour of Polish Internet users. A linguistic analysis of the comments on the forums related to other health problems, combined with other "checking" methods, would allow for a wider perspective on the deficiencies of knowledge and health competencies and a better understanding of the behaviour of people looking for a variety of health information. It could also be valuable knowledge as far as activities in the field of health education are concerned, as well as solutions in the area of information provision. In the context of online chatting analyzed here, it should be of serious concern to us that in Poland there is still no obvious, easy to find, credible health knowledge portal for citizens tailored to their needs.

References

1. Awdiejew A., *Strategie konwersacyjne*, "Acta Universitatis Lodziensis. Folia Litteraria Polonica" 2005; 7 (2): 127–150.
2. Awdiejew A., Habrajska G., *Wprowadzenie do gramatyki komunikacyjnej*, Vol. 2, Oficyna Wydawnicza Leksem, Łask 2006.
3. Brennan N., Edwards S., Kelly N., Miller A., Harrower L., Mattick K., *Qualified doctor and medical students' use of resources for accessing information: what is used and why?*, "Health Information & Libraries Journal" 2014; 31: 204–214. doi: 10.1111/hir.12072
4. Esser F., Hanitzsch T., eds, *The Handbook of Comparative Communication Research*, Routledge, New York, London 2012.
5. Hebrajska, G., *Nakłanianie, perswazja, manipulacja językowa.* "Acta Universitatis Lodziensis. Folia Litteraria Polonica" 2005; 7 (2): 91–126.
6. Hurst G., Wilson P., Dickinson A., *Older people: how do they find out about their health? A pilot study*, "Br. Journal of Community Nursing" 2013; XVIII (1): 34–39.
7. Nakayama M., (ed.), *Intercultural Communication in Contexts*, McGraw-Hill Higer Education, New York 2012.
8. Myslín M., Zhu S.H., Chapman W., Conway M., *Using Twitter to examine smoking behavior and perceptions of emerging tobacco products*, "Journal Medical Internet Research" 2013; 15 (8): 174.
9. Henzell R.M., Knight A.M., Morgaine K.C., Antoun J.S., Farella M., *A qualitative analysis of orthodontic-related posts on Twitter*, "Angle Orthod." 2014; 84 (2): 203–207. doi: 10.2319/051013-355.1. Epub 2013, Aug. 28.
10. Im, Eun-Ok, Wonshik Chee, *An online forum as a qualitative research method: practical issues*, "Nursing Research" 2006; 55 (4): 267–273.
11. Im, Eun-Ok, Wonshik Chee. *Practical guidelines for qualitative research using online forums*, "Computers, Informatics, Nursing" 2012; 30: 604–611.
12. Keim-Malpass J., Steeves R.H., Kennedy C., *Internet ethnography: a review of methodological considerations for*

studying online illness blogs, "International Journal of Nursing Studies" 2014; 51 (12): 1686–1692. doi: 10.1016/j.ijnurstu.2014.06.003. Epub 2014, Jun. 18.
13. Kisilowska M., *Sieciowe zachowania informacyjne w obszarze zdrowia jako przedmiot badań w informatologii i w innych dyscyplinach*, "Przegląd Biblioteczny" 2015; 83 (3): 382–397.
14. Szaulińska K., Sikorska O., Jarema M., *Leki przeciwpsychotyczne II generacji w opiniach użytkowników forum internetowego*, "Farmakoterapia w Psychiatrii i Neurologii" 2014; 30 (2): 69–89.
15. Marcinkowska U., Babińska A., Flak B., Bajer M., Biedak M., Jośko J., *Estetyka ciała kobiet chorych na raka piersi wyrażona w opiniach użytkowniczek forów internetowych*, "Onkologia Polska" 2012; 15 (2): 49–53.
16. Kubera K., Samardakiewicz M., *Analiza blogów internetowych prowadzonych w obszarze tematycznym nowotworów dziecięcych. Doniesienie wstępne*, "Onkologia Polska" 2009; 12 (3): 92–95.
17. Pilc A., Wronka M., Schlegel-Zawadzka M., *Blogi jako nowe narzędzie w diagnozie zaburzeń odżywiania*, "Żywienie Człowieka" 2007; 34 (1/2): 111–117.
18. Murawiec S., *O co pytają pacjenci po przebytej psychozie: pytania do eksperta na forum internetowym portalu TacyJakJa*, "Postępy Psychiatrii i Neurologii" 2012; 21(1): 31–36.
19. Wójcik-Jawień M., Wrona A., *Analiza problemów lekowych sygnalizowanych przez uczestników medycznych forów internetowych*, "Farmacja Polska" 2011; 67 (5): 281–287.
20. Wronka M., Jezierska-Kazberuk M., *Świat porcelanowych motyli. Blogi internetowe o tematyce odchudzającej jako źródło informacji o zaburzeniach odżywiania*, "Forum Zaburzeń Metabolicznych" 2011; 2 (2): 102–112.
21. Wysocka-Pleczyk M., *Grupy wsparcia online jako nowa forma pomocy w zmaganiu się z chorobą*, "HYGEIA Public Health" 2012; 47 (4): 391–397.
22. Grobelny B., Awdziejczyk M., Gorczyński W., Janczyk M., Leszczyńska M., Meissner K., Roszyk A., Specjalski R., Śniegula P., Tomczak J., Wiecheć K., *Analysis of benefits from being in a Alzheimer Internet support group for the caregivers of the people suffering from Alzheimer's disease*, "Nowiny Lekarskie" 2014; 83 (1): 65–72.
23. Batorski, D., Olcoń-Kubicka M., *Prowadzenie badań przez Internet – podstawowe zagadnienia metodologiczne*, "Studia Socjologiczne" 2006; 3 (182): 99–132.
24. Walker D.M., *The internet as a medium for health service research. Part 1 and 2*, "Nurse Research" 2013; 20 (4): 18–21.
25. Kiejna A., Adamowski T., Piotrowski P., Moskalewicz J., Wojtyniak B., Świątkiewicz G., Stokwiszewski J., Kantorska-Janiec M., Zagdańska M., Kessler R.C., *Epidemiologia zaburzeń psychiatrycznych i dostępność psychiatrycznej opieki zdrowotnej. EZOP – Polska*, "Psychiatria Polska" 2015; 49 (1): 5–13.
26. ., *Słownik terminologiczny informacji naukowej*, Dembowska M. (ed.), Zakład Narodowy im. Ossolińskich, Wrocław 1979.
27. Ormandy P., *Defining information need in health – assimilating complex theories derived from information science*, in: P. Ormandy (ed.), *Health Expectations*, Blackwell Publishing Ltd., 2010: 92–104.
28. Wilson T.D., *Human information behavior*, "Informing Science" 2000; 3: 49–55.
29. Niedźwiedzka B., *Modyfikacja modelu zachowań informacyjnych T. Wilsona w świetle wyników badania zachowań informacyjnych menedżerów*, "Zagadnienia Informacji Naukowej" 2002; 79 (1): 22–34.
30. Schardt C., *Health information literacy meets evidence-based practice*, "Journal of the Medical Library Association" 2011; 99 (1): 1–2. doi:10.3163/1536-5050.99.1.001.
31. Eysenbach G., Till J.E., *Ethical issues in qualitative research on internet communities*, "British Medical Journal" 2001; 323: 1103.
32. Dinakar I., Weinstein E., Lieberman H., Selman, R.L., *Stacked Generalization Learning to Analyze Teenage Distress*, Proceedings of the Eighth International AAAI Conference on Weblogs and Social Media, 2014, http://www.aaai.org/Library/ICWSM/icwsm14contents.php; access: 11.06.16.
33. Chodorowski Z., Sein-Anand J., *Skuteczne nakłanianie za pośrednictwem Internetu do podjęcia próby samobójczej*, "Przegląd Lekarski" 2002; 59 (4/5): 375–376.
34. Lisiecki Z., *Fora internetowe – możliwości i granice na przykładzie forum schizofrenii*, "Postępy Psychiatrii i Neurologii" 2009; 18 (4): 319–322.