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憂鬱症線上討論言談之主題分析

Exploring Topics in Online Discourses on Depression

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摘要

憂鬱症在線諮詢服務及線上同儕支持團體於近二十年間愈發蓬勃。本研究以語言學角度切入，運用自然語言處理方法，旨在探討對於使用上述網路諮詢資源之憂鬱族群而言，何等言談主題最受關切。透過語料庫為本之研究方法，並輔以主題模型技術，本論文針對三個專業醫療諮詢網站和一個線上同儕論壇之憂鬱症文本資料進行言談分析。研究結果顯示，在線醫病問答內容所論及之憂鬱症主題，大致涵蓋以下四類：（一）憂鬱症狀、（二）用藥與藥物併用、（三）治療方式和（四）家庭。反觀病友間之討論溝通，則多與下列五主題相關，其分別為：（一）負面情緒之肇因、（二）壓力來源、（三）非藥物治療、（四）同儕支持與鼓勵，以及（五）醫療資訊共享。除對比醫病與同儕兩諮詢脈絡下之討論主題，本研究亦指出憂鬱群體根據言談對象不同，所呈現語言表達層面之細微差異，包括：（一）憂鬱情緒之敘述、（二）自我與他者間之疏離感、（三）壓力來源、（四）虛詞之使用、（五）獨白式問句之用意。期望藉由探究憂鬱者之語言表徵及其關注議題，本文成果可使該群體在線諮詢過程更為順遂，亦希冀此研究對於憂鬱症臨床溝通有所助益。

關鍵詞：*憂鬱症、言談分析、計算語言學、主題模型、線上諮詢、醫病溝通、同儕支持*

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Abstract

The last two decades have witnessed the rise of online counselling and peer support services for persons with major depressive disorder (MDD). The current study addresses the question of what discourse topics are most cardinal to the depressed who make use of online consultation resources. Text data on three professional counselling websites and a peer discussion forum are collected for analyses which integrate statistical topic modelling techniques with corpus-based approaches. Findings indicate that topics brought forth by depression patients in the professional context are often associated with (1) depression symptoms; (2) medicines and comedication; (3) treatments; and (4) family. On the other hand, themes in peer communication primarily center on (1) causes of pessimistic feelings; (2) sources of pressure; (3) non-medical treatments; (4) mutual support and encouragement; and (5) sharing of healthcare and medical information. Nuanced differences in the two contexts, including the patients' narration on depressed mood, feeling of self-other alienation, sources of pressure, use of function words and interrogation, are also discussed in the present work. By probing into the language of the depressed, it is hoped that results of the research contribute to more effective and smoother communication in not only the patients' online interactions with healthcare providers and peers but also real-life clinical encounters.

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***Keywords**: depression, discourse analysis, computational linguistics, topic models, online counseling, doctor-patient communication, peer support*

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1. Introduction

Recent years have seen the development of professional online counselling services for the public to pose depression-related queries to certified health care providers. Also enjoying growing popularity among depressed persons are the peer-support communities on online fora or social networking sites. Both types of depression resources aim to provide information, consultation, and support for the vulnerable group. Furthermore, interactions of the depressed with experts and with lay people share similar characteristics in that both are asynchronous, anonymous, and initiative-taking. The objective of the current research is to investigate what discourse themes are fundamental to the depressed who make use of certain online communication services and to probe into how such topics are delineated or expressed by persons with depression in their communication with healthcare providers and peer patients. Grounded on a corpus-based approach, the present study incorporates computational methods— topic models in particular— into text analysis of the themes cardinal to depression-related online discourses. By examining the depressed patients' use of language, it is hoped that findings of the study contribute to more effective and smoother communication in not only online interactions with the professionals and peers but also real-life clinical encounters.

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1.1. Recognition of major depressive disorder

Depression, also known as clinical depression, major depressive disorder, or unipolar depression, is a mental disorder that may severely impairs an individual's cognitive and motor functions (Lin et al., 2000; Wu, Parkson & Doraiswamy, 2002). To pronounce clinical judgment on varied mental disorders, mental health professionals worldwide consult *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM-V*) (American Psychiatric Association, 2013) or its equivalent previous versions (American Psychiatric Association, 1994, 2000) for sets of diagnostic criteria describing symptoms and conditions representative of each disorder. In the psychiatric diagnosis of depression, *DSM-V* also serves as universal guidelines aiming to be used by trained healthcare providers for the classification and recognition of such a disorder.

According to the diagnostic criteria sets listed in *DSM-V*, typical major depressive disorder is characterized by nine symptoms which must be present nearly every day in a two-week period. These include (1) subjective or observed depressed mood, which can be sadness, emptiness, hopelessness, or other pessimistic states of mind; (2) markedly diminished interest or pleasure in most activities one used to enjoy; (3) feelings of self-worthlessness or irrational guilt; (4) inability to think or concentrate, or indecisiveness; (5) fatigue or loss of energy; (6) significant weight gain or loss (more

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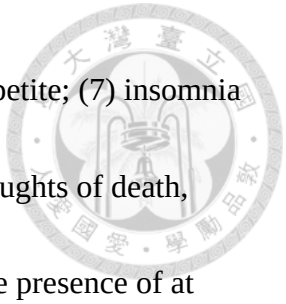

than 5% of original weight in a month), or decreased or excessive appetite; (7) insomnia or hypersomnia; (8) psychomotor agitation or retardation; and (9) thoughts of death, self-harm, or suicidal ideation or attempt. Among the nine criteria, the presence of at least one of the former two, along with a sum of five or more symptoms, must be identified and reported within the same two-week time frame in order for a health professional to determine that an individual is clinically depressed.

1.2. Depression in Taiwan

Debilitating mental disorders are not uncommon in Taiwanese society. Fu and colleagues (2012) conducted a longitudinal research investigating the impact of macrosocial factors on the prevalence of common mental disorders among Taiwanese adults over twenty years, from the year 1990 to 2010. Their findings indicated that the prevalence rate of probable common mental disorders had doubled from the 1990 11.5% to the 23.8% in 2010.

Among frequently diagnosed mental disorders, not only has depression made an impact on the adult population but it has also influenced the older generation in Taiwan. A high prevalence rate of various psychiatric and mental disorders has been reported to be 37.7% among community-dwelling Taiwanese senior citizens, in which unipolar depression accounted for 5.9% (Chong et al., 2001).

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As a portion of people with depressive disorders conceive of death or suicide often, an identical phenomenon has been discovered among the elderly. Past statistics have shown that the older generation in Taiwan had a corresponding increased risk in both psychiatric illness (Chong, 1992) and suicide (Chong & Cheng, 1995). Furthermore, many of the elderly who committed suicide were found to have suffered from depressive disorders (Cheng, 1995). Therefore, it should be acknowledged that the provision of quality healthcare services as well as care and support for the depression population is of immense value to depressed patients in all ages.

1.3. Online counselling resources for the depressed

As a means to providing professional assistance and support to people suffering from depressive symptoms and those concerned about the issues of depression, online counselling websites and forums have developed rapidly to serve the needs of the depression patient community. These professional online counselling services are provided and maintained by medical experts and mental health personnel, enabling the general public to pose depression-related queries to valid health care providers.

The past decade has also witnessed growing popularity of peer-support fora among persons with depression. Both patient-to-provider and peer-to-peer services function to offer diverse respects of consultations, psychological support, and share of information

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for the depressed group, and the patients' interactions with trained personnel and other peers are similar in mode since both are written, asynchronous, anonymous, and initiative-taking. Park and colleagues (2013) have investigated the role which social media plays for depressed individuals and the non-depressed. After conducting interviews with eight Twitter uses in each group, the researchers suggested that healthy subjects utilized the medium for information learning and sharing. In contrast, the depressed viewed Twitter as a platform for emotional interchange. Therefore, the study indicated that media of online communication has the potential to offer abundant lexical resources for researchers to gain better insight into the utmost concerns and linguistic expression of the depressed community.

1.4. Definition of terms

It should be noted that the following terms aim to represent specific notions in the current study.

1.4.1. Provider

Abbreviated from "health service provider", the term "provider" includes professionally trained personnel specializing in psychiatry or psychosomatic medicine as follows:

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(1) Psychiatrist: A physician and medical doctor whose capability and responsibility lay in the diagnosis and treatment of mental disorders and who are entitled to prescribing medicine.

(2) Clinical psychologist: A health care professional and a psychologist who has attained a master's degree in Psychology and may or may not possess a doctoral degree. Usually providing services in public health care systems such as hospitals or in private practice, a clinical psychologist specializes in mental health consultation, psychological assessment, counselling, and psychological treatment. However, unlike a psychiatrist, a clinical psychologist cannot diagnose mental disorders and give prescriptions.

(3) Counselling psychologists: A mental health expert and counselor with at least a master's degree in Counselling or relevant fields and generally less experienced and trained in clinical psychiatry and psychology than a counselling psychologist. The duty and right of a counselor is similar to those of a clinical psychologist except that a counselling psychologist primarily works in non-public health institutes such as school counselling centers, non-governmental organizations or private clinics.

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1.4.2. Patient

Not restricted to its traditional meaning as often occurring in medical discourses, the term “patient” in this study specifically denotes any individual who may not be officially diagnosed with major depressive disorder but who suspects that he/she may be clinically depressed or who interacts with patients with depression in situations outside medical encounters. According to the above definition, individuals on depression forums who express their concerns or worries about the mental disorder, share feelings or experiences dealing with depression or the depressed people, or show support for this vulnerable group are all referred to as “patients”.

1.4.3. Peer-to-peer communication

Mainly the asynchronous (and sometimes synchronous) verbal communication between patients (as defined previously in a boarder sense) in the discussion of depression-related topics on online fora.

1.5. Objectives of the study

The purpose of the present study is to explore how the depressed communicate with experts and peers via the Internet. More specifically, the study examines what conversation topics are central or highly valued among the depression population and

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compares the topics which the patients tend to address to experts and to their peers respectively. By understanding, through the use of language, what people with depression may need and care about when communicating and seeking help via the Internet, it is hoped that the findings of the current research help facilitate not only the online communication regarding depression topics in professional and lay-people contexts but also doctor-patient communication in real-time clinical encounters.

1.6. Organization of the study

The current chapter has provided an introductory overview of the diagnosis and influence of clinical depression in the country, and online consultation services available to the depressed persons have also been touched upon. The remaining of the thesis is structured as follows. In Chapter 2, a brief review of previous research related to the study of depression is given to help to comprehend the connection between language and the mental disorder. Section 3 defines certain terminology cardinal to the understanding of the scope of research. Within the same chapter, sources of data collected and computational techniques employed for later analysis are to be introduced. Next, grounded on the methodology presented in the previous chapter, Section 4 provides explication of research outcomes with respect to topics pivotal in patient-to-provider and peer-to-peer discourse about depression. Lastly, Chapter 5

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recapitulates the current research and pinpoints important findings worthy of successional study.

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2. Review of Literature

Myriads of studies have been devoted to the behaviors and brain responses of the depressed individuals. Some of the previous research has examined the verbal memory of the patients, while others employed imaging techniques to investigate the brain function of the depressed group. Many studies have looked into the responses to negative and positive stimuli of the depressed. One of the studies exploring the relation between verbal memory and depression was conducted by Elderkin-Thompson and his colleagues (Elderkin-Thompson et al., 2007). In the experiment, researchers asked senior citizens with depression to perform memory and executive tests. Compared with the control group, the depressed group had trouble memorizing words and failed in the appropriate semantic clustering as a strategy for the task. In addition, the depressed group was also found to be impaired in executive function, manifested by lower scores in Wisconsin Card Sorting Test (WCST), a test unrelated to list-learning. With semantic clustering and WCST both mediating the effect, the researchers concluded that executive dysfunction accounts for the group's decreased verbal memory.

Besides verbal memory, processing of emotion words is another field of research targeting the depressed group (Silberman & Weingartner, 1986). In a stroop test with emotion words that was carried out on depressed and healthy subjects, both groups

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showed a left lateralization of the brain when processing positive words (Herrington et al, 2010). However, in terms of negative word processing, the depressed subjects manifested a lateralization in the right dorsolateral prefrontal cortex and the right amygdale, while the control group still displayed a preference in the use of the left hemisphere. Given that the right amygdala is in charge of rapid arousal to emotions, whereas the right dorsolateral prefrontal cortex is associated with responses to negative affections and withdrawal behaviors, the abnormal activation of these two areas might explain the inclination of negative thoughts for depressed individuals.

Moreover, biological and environmental factors both contribute to the emergence of depression. Nemeroff (1999) has proposed a stress-diathesis hypothesis, asserting that life experiences and inborn disposition render depressive disorders. On the one hand, abused or neglected individuals are highly prone to major depressive disorder. On the other, one-third of depressed patients are found to possess genes which upset the secretion of the brain-derived neurotropic factor (BDNF), a substance which helps the growth of neurons. Therefore, these patients are believed to be vulnerable to stress (Arden & Linford, 2009).

The correspondence between depression and ambiguity priming is also explored through the use of sentences as experiment materials (Lawson & MacLeod, 1999). By

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dividing subjects according to their score rating on Beck Depression Inventory (BDI), a measure of depression by self-reflection, the researchers had participants read ambiguous sentences paired with positive or neutral target words. Countering to one's intuition, the high BDI group did not show any naming facilitation for negative words. In fact, they were disposed to reduce interpretations on ambiguous prime sentences. On the contrary, it was the low BDI group that exhibited an increasing tendency to impose more negative interpretations of the ambiguous sentences. The common concept of negative bias in depressed individual was thus challenged in this paper.

Studies described previously have placed their focus on the depressed individuals' brain reaction to or processing of language rather than examined the depressed persons' use of language as the product of their mental activity. The patients' linguistic expression provides a unique window into the mind, not only serving as a medium for conveying thoughts and feelings, but also presenting essential diagnostic clues about the mental illness one possesses. For instance, with the aid of machine learning techniques and a computerized speech analysis program, Bedi and colleagues (Bedi et al., 2015) have been able to successfully identify and predict future onset of psychiatric illness in youths, depending on various linguistic features in the young individuals' speech, such as semantic coherence, length of phrase, and use of determiners. Results indicated that

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persons who later developed psychosis displayed loss of flow in between the meaning of sentences, produced shorter phrases, and used fewer determiner words such “that”, “what”, and “which”.

Moreover, as regards dysphoria, which can accompany depression, Rude, Gortner, and Pennebaker (2004) studied the self-revelation essays on college life written by dysphoric and healthy individauls. Utilizing the Linguistic Inquiry and Word Count (known as “LIWC”) text analysis program (Pennebaker & Francis, 1996; Pennebaker, Francis, & Booth, 2001), the researchers concluded that, in comparison to the non-dysphoric group, dysphoric subjects produced more negative emotion words and used more first-person pronouns to refer to themselves.

In terms of the linguistic behaviors of persons with clinical depression, Andreasen and Pfohl (1976) have examined and compared several aspects of language between patients with depression and those with mania. With the employment of psycholinguistic methods, the findings suggested that the depressed persons exhibited more frequent use of state of being verbs, descriptive adverbs, personal pronouns, and the pronoun “I”. Furthermore, using content analysis, it was found that the speech of the depressed patients showed a tendency to be more abstract and devoted extensive attention to the self. Identical to Andreasen and Pfohl’s findings on the use of pronoun

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by depressed persons, Dönges (2009) also reported that celebrities and published poets who felt depressed or possessed self-harm ideation demonstrated more frequent use of the first-person singular, which might indicate excessive focus on the self and alienation from other people at the same time.

The depressed individuals' production of language has been probed into through experiment approaches. In Alison and Burgess (2003), healthy and depressed subjects participated in word association tests with positive, neutral, and negative lexical items as stimuli. The subjects' responses were measured by Hyperspace Analogue to Language, a model which computes the range of word contexts. The findings indicated that the depressed group generated negative words in a shorter length of texts and tended to use words with a more negative connotation.

Discourse analysis is yet another approach whereby researchers explore the linguistic cues displayed by the depressed community. Based on discourse analysis, Drew and coworkers (Drew, Dobson & Stam, 1999) examined the interviews given to sixteen major depression patients on the topic of experiences of the illness. Countering to one of the *DSM* diagnostic criteria, which describes the patients' symptoms as feelings of unnecessary guilt or self-worthlessness, results of the research implied that the depressed interviewees consciously refused to be blamed for their ill condition and

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presented their self-image as valuable.

Much research has been conducted to investigate the brain activity of the depression patients. Moreover, it is established that studies on language and depression provide pathological framework and diagnostic basis for depression (Fitzgerald et al., 2008; Henry & Crawford, 2005), which also aid the psychotherapies of the patients (Iakimova et al., 2009). Nevertheless, the actual linguistic production-- for instance, what kinds of words these patients tend to use, or what topic they usually talk about in discourse-- requires further exploration. Therefore, this paper intends to identify and analyze the discourse themes and lexical items crucial to and frequently occurring in the groups of depressed people in professional and peer-patient contexts.

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3. Methodology

In order to gain insight into what communication topics are of major concern to the depressed community, discussion records available on three professional counselling websites and a peer discussion forum are collected for further examination. Grounded on a corpus linguistic approach, the current study combines computational topic modelling techniques with discourse analysis to explore the language use of persons with depression.

3.1. Materials

Discourse data of professional online depression counselling were retrieved from three sources: a freely available governmental medical website called “台灣 e 院” *Taiwan e Doctor* (http://sp1.hso.mohw.gov.tw/doctor/Index1.php) and two non-governmental organization websites, “國家網路醫藥” *KingNet National Network Hospital* (http://hospital.kingnet.com.tw/free/index.html) and “心靈園地” *Psychpark* (http://www.psychpark.org/). Online peer-to-peer depression communication data to be analyzed in this research were collected from the Prozac board on PTT, a widely used bulletin board system (BBS) among Taiwanese people. All of the aforementioned online consultation resources are open source and free of charge. By submitting an inquiry to the three counselling websites or posting to the Prozac board, authors acknowledge

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agreement to release their content of consultation to the public, hence ethical approval from the data contributors obtained.

3.1.1. Patient-to-provider depression corpus

The patient-to provider corpus is composed of consultation articles about depression on three professional websites. In order for the Taiwanese government to facilitate its citizens' clinical visits, improve patient-provider relationship, and diminish waste of medical resource, a professional counselling website, Taiwan e Doctor, was established in 2000 to offer consultation of health, medication, and clinical information at no cost to the general public. The service is developed and maintained by the Ministry of Health and Welfare, R. O. C. The body of personnel providing professional online counselling comprises more than 198 physicians, 22 pharmacists, six dietitians, and six nurses serving in 33 major hospitals all over Taiwan, specializing in 33 departments, including internal medicine, dermatology, psychiatry, etc. Established by a non-governmental organization in 1998, KingNet National Network Hospital currently has more than seven hundred volunteer practitioners as well as other professional personnel all around the nation, making up to a total number of almost 1,600 healthcare providers, to assist in free consultation services to the public.

Similar to the medical resources that can be obtained on Taiwan e Doctor website,

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KingNet's online counselling also covers a variety of professional divisions that people can consult with. Also founded in the same year, Psychpark was one of the renowned consultation websites that specialized in mental health of the public. Psychiatrists, psychologists, social workers, and other counselling professionals volunteered to provide mental care advices, particularly those related to depressive disorder, to the enquirers via the Internet. Although at present, Psychpark has ceased to operate and thus is unable to provide counselling services anymore, the website continues to exist and its inquiry archive remains open to online users.

A total of 785 counselling articles classified as depression-related questions were found in the psychiatry query sections. All the queries are initiated by a patient and later answered by a healthcare provider. These entries will be used for further text analysis and topic clustering.

3.1.2. Peer-to-peer depression corpus

Prozac board is a discussion forum on PTT, which is a BBS founded in 1995 by students in the Department of Computer science and Information Engineering at the National Taiwan University. It is registered by over 1.5 million users, making it arguably the largest BBS in the world. Fora on the PTT are divided into boards. The PTT contains more than twenty thousand boards featuring a variety of topics, and the

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number is still growing every day.

The vast majority of people who post articles on the Prozac board are depression patients. The topics of their discussion mainly surround their personal life experience dealing with the disorder. There are 4359 posts written between the years 2005 and 2016 that are collected as materials for the study. Each post may or may not consist of follow-up discussion threads contributed by different persons other than the original content launched by a single author.

3.1.3. Meta-information of the two corpora

Brief statistical descriptions of the two corpora are given as follows. There are 785 inquires in the patient-to-provider corpus. The number of word tokens found in all texts in professional consultations is 200,502, and the number of word types is 6,706. If dividing the number of word types by the number of tokens, a lexical richness score of 0.0334 derives.

As for the peer-to-peer corpus, 4,359 postings are collected for analysis. The numbers of tokens and types are 1,477,080 and 64,698, respectively, wherefrom a lexical richness of 0.0438 is obtained. As a rough overview of the meta-information of the two corpora, patients seem to exhibit more semantic versatility when they

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communicate with their peers as opposed to when they consult the healthcare professionals.

3.2. Computational methods

3.2.1. Word segmentation

Automatic segmentation of texts in the two corpora is accomplished with the help of Jseg segmentator (Liu, 2014), an enhanced segmentation tool adapted from the Jieba segmentation tool (*https://github.com/fxsjy/jieba*). As the Jseg segmentator was trained with Traditional Chinese data in the Academia Sinica Balanced Corpus of Modern Chinese (Chen et al., 1996; Chinese Knowledge Information Processing team, 1998), it is reported to reach an F1 score of 0.91.

3.2.2. Topic modelling

Traditionally, the analysis of linguistic data involves either an observational or an *a priori* coding system. However, the application of a coding system very often faces challenges in that the labelling process can be fairly time-consuming, problems exist in inter-annotator agreement, and that categories to which tagged information may belong require to be predefined, risking the loss of a more naturalistic representation of the data (Artstein & Poesio, 2008; Heigham & Croker, 2009).

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The present research exploits a data-driven, quantitative method for analyzing documents, known as topic models (Atkins et al., 2012; Blei, Ng & Jordan, 2003; Steyvers & Griffiths, 2007), for text analysis of online patient-to-provider and peer-to-peer discourses. The hypothesis of topic clustering states that when one intends to express some ideas, or topics, the person will formulate words or phrases belonging to each topic in mind. These words and expressions are then arranged into and distributed across different parts of one's speech or writing. Figure 1 illustrates the logic behind topic models implemented in text mining.

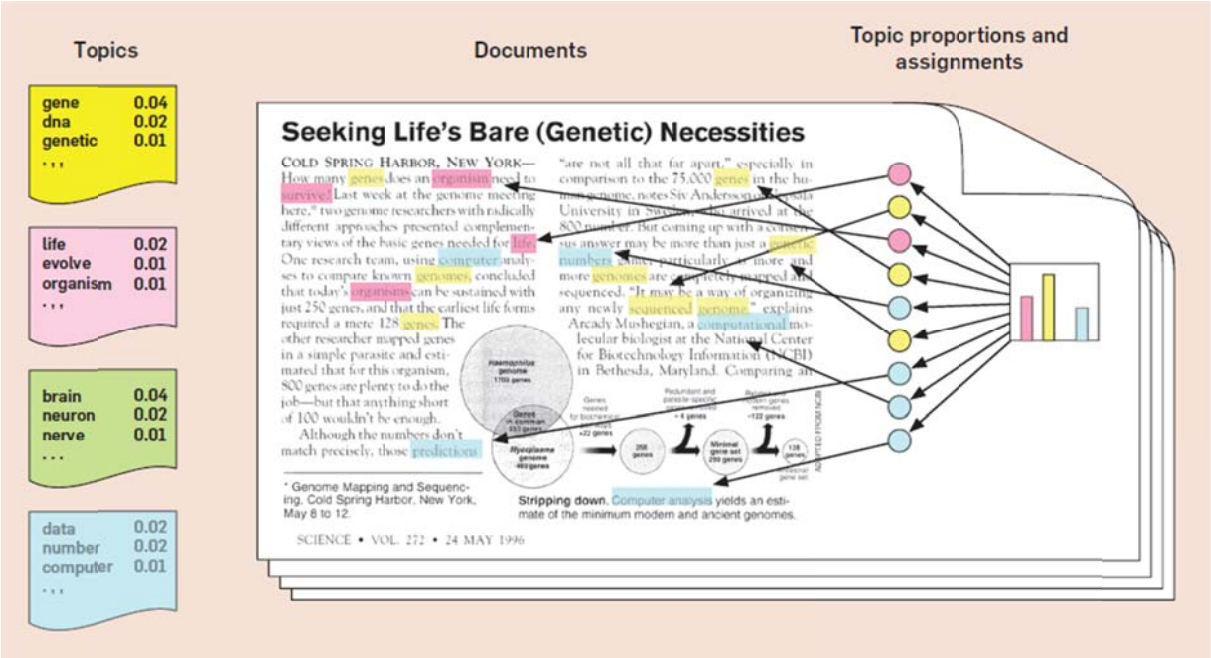

Figure 1. Logic behind topic modelling algorithms (Blei, 2012).

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In other words, topic models assume the following. First, a spoken or written text comprises multiple topics. Second, topics are generated prior to the texts as a product of thoughts. Third, topics are represented by a cluster of words. Grounded on the premises stated above, by observing and analyzing a person's language, through which concepts are delivered, latent, hidden topics should naturally emerge from a sea of words. Therefore, what topic clustering algorithm does is to help to explore topics in given texts, and while discovering words key to the topic, it helps to summarize the main points of the texts as well.

Article entries in the patient-to-provider and peer-to-peer corpora are first segmented and then processed using Nonnegative Matrix Factorization (NMF), an unsupervised, generative machine learning algorithm that reduces dimensions while performing clustering (Kuang, Choo & Park, 2015; Xu, Liu & Gong, 2003). The processing of text data in the current study was accomplished with extensive help of *numpy* and *sklearn* packages in Python programming language and topic modelling tutorials developed by Allen Riddell at Indiana University, Bloomington (https://de.dariah.eu/tatom/topic_model_python.html).

Procedures of NMF topic modelling in Python are as follows: First, the term frequency-inverse document frequency (TF-IDF) is obtained to evaluate the

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significance of a lexical item to a text in each of the two corpora collected for further research. Term frequency (TF) is the frequency of term *t* as it occurs in a document, divided by the total number of terms in that specific document, whereas inverse document frequency (IDF) represents the logarithm of the total number of documents, divided by the number of documents where term *t* occurs. The weight of a term in a particular text derives as the product of TF*IDF. Second, Python aided to form a text-term matrix relying on the previously computed TF-IDF weights. Using NMF for dimensionality reduction since the corpora in the present study are large in size, document-topic matrix is transformed into document-term matrix, and a list of top terms in each topic cluster can then be obtained. It should be noted that each topic, formed by a list of words, is manually titled by the researcher after tracing back every word in that cluster to its original context in the corpora and later deciding on the name of the topic with which those top terms are most closely associated.

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4. Results and discussion

4.1. Results of topic modelling

When the number of topic clusters is set to fifteen and the number of keywords, ten, outcome of NMF topic modelling can best describe the data itself. That is, the words in each cluster are most central to or representative of that specific topic. In a topic cluster, the lexical item most cardinal to a particular theme of discussion appears on the top of the keyword list, and as the list proceeds, the keyness— the degree of relevance between a word and the issue of concern— gradually declines. Note that the numbering of the topics (Topic #1 to Topic #15) does not entail any ranking of the popularity or priority of the themes in the online depression-related discourse. It should also be reminded that the title of each cluster (in bold and uppercase as shown below) is manually labelled by the researcher for the sake of a straightforward summary of the topic under discussion. Every list of key terms is then succeeded by explicit explanations of the words' meaning in context so as to help to ascertain the purport of the subject in discourse. It is worth clarification that identical lexical items may appear in different, even multiple, topic clusters, given that a word or phrase can carry variant concepts that each of which contributes to the semantics of distinct subject groups. For instance, the term "憂鬱症" *depression* is grouped into several clusters in

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patient-to-provider communication wherein patients enquire about simultaneous use of different medications(Topic #9a), doctors urge the potentially depressed to come for a clinical examination (Topic #11a), or possible symptoms of depression are discussed (Topics #1a, #4a, #5a), and so forth.

4.2. Topics in patient-to-provider depression communication

With the employment of topic modelling techniques, fifteen topic clusters emerge from online patient-physician consultation on major depressive disorder. The finding shows that discussion themes between patients and healthcare providers are primarily associated to four broad topics: symptoms, medication, treatment, and family. Table 1 below gives an overview of topics central to professional online counselling.

Topic	Title
#1a	**Depressive symptoms**
#2a	**Depressed mood**
#3a	**Control of emotion**
#4a	**Suicide**
#5a	**Memory problems**
#6a	**Comorbidity symptoms**
#7a	**Side-effects of depression medications**
#8a	**Withdrawal of depression medications**
#9a	**Depression medications and comedication**
#10a	**Information of depression treatment**
#11a	**Encouragement for treatment**
#12a	**Non-drug treatment**

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#13a	**Family problems**
#14a	**Self-other alienation**
#15a	**Compliments**

Table 1. Topics in online patient-to-provider depression communication.

The following six topic clusters, Topics #1a to #6a, all contain key terms that are pertinent to the symptoms associated with depression. As shown in Table 2, Cluster #1a centers upon a variety of critical diagnostic signs which physicians often rely on to determine whether a person is clinically depressed or not.

Topic #1a	**DEPRESSIVE SYMPTOMS**
症狀	symptom
躁鬱症	bipolar disorder
憂鬱症	depression
憂鬱	depressed
失去	lose
低落	low-spirited
情緒	emotion
興趣	interest
自殺	suicide
體重	weight

Table 2. Keyword cluster on the topic “depressive symptoms” in online patient-to-provider depression communication.

By glancing over lexical items listed in Topic #1a, it should not be hard to notice

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that themes involving major symptoms, or diagnostic criteria as stated in *DSM-V*, of clinical depression emerge from patient-physician communication on online depression fora. Sometimes disturbed not only by unipolar depression but possibly also by bipolar disorder, patients are alert to a change, recent or lasting, in their emotion, physical condition, and behavior in daily life. Example (1) illustrates emotional and behavioral changes discovered by a patient who wonders if her symptoms all point to major depression or bipolar disorder. With a view to easily discerning the keywords in the texts, key terms clustering to form the topics are marked in bold in the example sentences henceforth.

(1) 有時候我覺得這樣活下去沒有什麼意義，真想就這麼死了算了。在公司壓抑自己的**情緒**，在人面前總是一付很開心快樂的模樣，但離開公司一個人在的時候，就會衝動的不停掉眼淚，莫名的感傷，覺得好想有人擁抱我給我支持。這種情況已經好久了，尤其是跟男友不和的時候。我很懷疑自己是否得了**躁鬱症**或**憂鬱症**。

"Sometimes I feel it is meaningless to live, wishing to be dead. I suppress my ***emotions*** *at work and always appear to be happy looking in front of others. But when leaving the company and being alone, I weep on an impulse. I become sentimental for no reason. I wish someone could hug me to offer me support. This kind of condition has lasted so long, especially when I don't get along with*

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*my boyfriend. I suspect that I might have **bipolar disorder** or **depression**."*

One of the most evident symptoms prevailing in such discussions is the haunting feeling of gloom ("憂鬱" *depressed*, "低落" *low-spirited*). Furthermore, at times triggering events that cause the patients to become dispirited may be absent in the patients' queries or simply go unheeded by people experiencing sudden fluctuations in mood. Instances (2) to (4) are some of the descriptions lacking explicit causes of the depressed mood.

(2) 手中做著工作，心裡卻想別的事，想到越來越悲傷，**情緒**很**低落**。

*"While working on the task at hand, I had something else in mind. Thinking about it, I became sadder and sadder. I felt so **low** in **mood**."*

(3) 最近這兩星期以來，幾乎天天都很**憂鬱**，且過去有**興趣**的事現在也提不起勁。

*"For the past two weeks, I have been very **depressed** almost every day. And I'm no longer enthusiastic about things I used to be **interested** in."*

(4) 有時候覺得**情緒**很好，有時候不明原因的，突然間的就不想講話或**情緒**

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低落。我曾經想過輕生，但最後大哭一場又沒有行動。有時候會懷疑自己有雙重人格，因為認識我的朋友說我是個樂觀的人，可是為什麼私底下獨處的自己容易覺得**憂鬱**？

*"Sometimes I feel I'm in a good **mood**. Other times for unknown reasons, all of a sudden I don't feel like talking or my **mood** becomes **low.** I thought about committing suicide, but eventually I had a good cry and didn't take any action. Sometimes I suspect myself of dual personality, because my friends who know me said that I'm an optimistic person. But then why do I feel **depressed** easily when I'm alone?"*

Besides constant pessimistic states of mind, other depression-related symptoms reported by the patients include loss of pleasure in daily activities they used to delight in (as demonstrated by examples (3) and (5)), decrease or increase in body weight, and the thought or attempt to commit suicide, all of which conform to the diagnosis guidelines in *DSM-V.*

(5) 長時間心情極度**低落**。胸悶。對很多事沒**興趣**。

*"My mood has been extremely **down** for a long time. I feel oppression in chest. A lot of things don't **interest** me."*

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When patients mention a change in their weight, whether weight gain or loss, other depressive symptoms stated in *DSM-V* are often found to be concomitant. Such phenomena of concurrent symptoms can be observed from queries (6) to (8).

(6) 因為壓力，我的**體重**在近兩個月增加了 4、5 公斤，而且有持續增加的趨勢……導致我不想做任何的事，而且**情緒**暴躁。請問我有**憂鬱症**嗎？

*"Due to stress, I put on 4, 5 kilograms of **weight** in the last two months, and it inclines to continuing increasing. It makes me not want to do anything as a result, and my **mood** is irritable. I wondered if I have **depression**."*

(7) 對於自己的**體重**若增加，會讓我感到**情緒**不安，在生理期快到前幾天，我的脾氣容易變的很不穩，對朋友或家人發過脾氣的話，我又會覺得很有罪惡感。

*"In terms of my **weight**, if it increases, that will result in my **mood** disturbance. A few days before my period comes, my temper tends to become very unsettled. If I lose my temper towards friends or families, I feel a sense of guilt."*

(8) 最近我常感到焦慮，煩躁，**憂鬱**，神經衰弱，心神不定，做事情不容易集中精神，這些感覺一直困擾著我，**體重**也一直下降，請問要如何做才能

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改善這些狀況呢？？

*“Recently I often felt anxious, fretful, **depressed**, neurasthenic, disturbed, and hard to concentrate when doing something. These feelings keep on troubling me. My **weight** continues to go down as well. I wondered how I can improve such conditions.”*

In terms of suicidal ideation and attempt, although only the keyword “自殺” *suicide* occurs in the current topic cluster, alternative phrases or expressions that convey the thought of committing suicide but are not counted as the top words in Topic #1 also frequently appear in the patients’ queries, together with other typical symptoms of major depressive disorder. Phrases indicating conception of death but do not necessarily involve the word “自殺” *suicide* can be found in data (9) to (11), to name but a few.

(9) 很難過，心情變得更加**低落**，最近感到很厭世，一直有想**自殺**的衝動，我不知該如何是好。

*“I’m very sad. My mood becomes even **lower**. Recently I’ve been weary of the world, always having an urge to **suicide**. I don’t know what to do.”*

(10) 每天**情緒低落**，經常感到人生沒有意義與價值，常想要**自殺**又不敢。

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*"**Mood** is **down** every day. I often feel that life is meaningless and worthless, often thinking about **suicide** but not daring to do it."*

(11) 不斷抽煙能穩定**情緒**，自言自語，**情緒**起落很大，提不起勁，很想一走了之，但顧慮很多。

*"Keeping on smoking can steady my **emotions**. I talk to myself. My **emotions** fluctuate greatly. I'm in low spirits. I want to be gone once and for all but have many misgivings."*

Similar to Topic #1a, Topic #2a is also related to symptoms of depression; nevertheless, this second cluster is narrower in scope in that it concentrates specifically on the patients' emotional state.

Topic #2a	DEPRESSED MOOD
	自己 oneself
	覺得 feel
	常常 often
	一直 constantly
	心情 mood
	想法 thoughts
	難過 sad

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生氣 upset
憂鬱 depressed
哭泣 weep

Table 3. Keyword cluster on the topic “depressed mood” in online patient-to-provider depression communication.

As demonstrated by the keywords in Table 3, patients communicate with healthcare professionals via online fora to express negative feelings (“覺得” *feel*), ideas (“想法” *thoughts*), and emotional state (“心情” *mood*) which they are prone to, such as sadness (“難過” *sad*), distress (“憂鬱” *depressed*), and agitation (“生氣” *upset*). Examples (11) and (12) below both provide a window into such negative emotional state recounted by the patients.

(11) 我這半年來變得很容易**生氣**，可是不太敢宣洩出來，只好悶在心中，搞得**自己**很**生氣**又很**難過**，情緒起伏很大，會莫名的**難過**或**生氣**，**覺得自己**什麼都做不好，很沒自信，雖然朋友都說我不會很差，可是我就是真的**覺得自己**什麼都不會。

*“I became prone to **anger** in the past half of year, but I did not quite dare to let it out. I could only hold it in, getting **myself** to be very **upset** and **sad**. My mood fluctuates greatly. I get **sad** or **angry** for no reason. I feel myself incapable of doing anything well and very diffident. Although friends all said that I was doing*

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*alright, I really **feel** that **I** am good at nothing."*

(12) 有時候**心情**會突然陷入低潮，然後好**難過**，好想哭，猶如悲從中來的 感覺！！也會**覺得**現在、將來都沒什麼意義！！

*"Sometimes I fall into low **mood** suddenly. Then I feel so **sad**, wanting to cry so badly, just like sadness welling up!! I also **feel** that the present and the future both mean nothing!!"*

Also reported by the depressed themselves ("自己" *oneself*), rather than by the people surrounding them, is their shared and common reaction towards unpleasant feelings--crying ("哭泣" *weep*). This is exemplified in sentences (13) and (14). Moreover, the frequency concerning how often patients regard themselves as affected by a worrisome mind ("常常" *often*, "一直" *constantly*) is also recited in the queries.

(13) **心情**低落已經有 4 個月，前陣子開始急躁、沮喪、無力，**常常覺得難過**得無法承受，**常常**一個人偷偷的哭，好**難過**，好**難過**。我這樣也算憂鬱症嗎？？？

*"**Mood** has been low for four months already. A while ago I started to be*

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*impatient, discouraged, and weak. I **often feel** so **sad** that I cannot endure anymore. I **often** cry covertly by myself. So **sad**. So **sad**. Am I considered clinically depressed???"*

(14) 當我一個人時，我會無助的**一直**哭，或者是明明晚上很累，但腦海中**一直**想不愉快的事而失眠或**哭泣**，**難過**時我總是**覺得**孤獨的一個人，沒有人關心我。

*"When I was all by myself, I cried helplessly **all the time**. I was certainly tired at night, but unpleasant things **constantly** came into my mind and so I lost sleep or **wept**. When I'm **sad**, I always **feel** lonely and alone. No one cares about me."*

In Table 4, adjustment to undesirable emotions occurs as a challenge to people making inquiries on depression consultation fora.

Topic #3a CONTROL OF EMOTION
無法 cannot
如何 how
情緒 emotion
悲傷 sadness
調適 adjust
問題 problem

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控制	control
是否	whether
自己	oneself
不知	do_not_know

Table 4. Keyword cluster on the topic “control of emotion” in online patient-to-provider depression communication.

Topic #3a centers on patients’ difficulty in the management of negative emotions. Lexical items carrying doubts and negation, such as “無法” *cannot*, “不知” *do_not_know*, “如何” *how*, and “是否” *whether*, convey the patients’ feeling powerless to take control over their worrisome mind, as illustrated by data (15) and (16) below.

(15) 厭世的感覺沒了，但是我發現**自己**還是會很**悲傷**。當所處環境與面對的事物**無法**盡如己意時，那種難過的**情緒**如排山倒樹而來，很難**控制**，都得痛哭後才能覺得舒服。面對**問題**很難下決定，真的覺得**自己**變了，變得思考遲緩、**情緒**失調。請問我該**如何**看醫生或靠**自己**心理**調適**？

*“The feeling of world weariness has gone, but I still find myself very **sad**. When I’m in environments or face things that **cannot** go as I have wished, that kind of sad **emotions** overwhelms me and is hard to **control**. Only after crying badly will I feel well. It’s hard for me to make decisions when confronted with **problems**. I really feel I **myself** have changed, becoming slow in thinking and unable to adjust **emotions**. I wondered **how** to go to the doctor or **tune up** the mind by*

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***myself**."*

(16) 很累，**情緒**很**悲傷**，常不自覺流淚，**無法控制**。

*"Exhausted. I have very **sad emotions**. I often weep without noticing myself doing so. I **cannot control** it."*

Many inquirers write to online counselling professionals to seek advice, because they do not understand what makes them so sad and depressed, and they cannot figure out an effective way to cope with those bad feelings. Some also report that they feel overwhelmed by negative emotions and are in constant fear of losing self-control. The description in instance (17) portrays such apprehension over the loss of emotional control.

(17) **不知**從何時，我的心情就開始時好時壞，我有時**無法控制**的**悲傷**。我真的很想**控制自己情緒**，我好怕我之後真的會失去理智，真的**不知**該怎麼辦。就算朋友叫我要想開一點，但是我沒有辦法**控制**我腦子裡想的事情。我該怎麼辦. . . . . .

*"I **don't know** since when, my mood started to swing. I sometimes **couldn't help** but feel **sorrowful**. I really wanted to **control my own emotion**. I was very scared*

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*about losing sanity afterwards. I really **don't know** what to do. Even though friends told me to stay positive, I had no way of **controlling** what I was thinking in mind. What should I do…"*

Yet another salient sign of depression is suicidal or self-harm thinking as well as behaviors. Key terms in Topic #4a indicate that people turn to online counselling to reveal their preoccupation with suicide.

Topic #4a	**SUICIDE**
自殺	suicide
生命	life
憂鬱症	depression
自己	oneself
家庭	family
念頭	thoughts
結束	end
感情	affections
拖累	encumber
罹患	suffer (from an illness)

Table 5. Keyword cluster on the topic "suicide" in online patient-to-provider depression communication.

Patients disclose suicidal ideation and motivation to healthcare providers online. Reasons why patients may desire to end their life are often related to romantic relationships ("感情" *affections*), family, and comorbidity. Taking advantage of the online depression fora as an outlet for strong emotional pain after a heartbreaking romantic relationship, it is not uncommon to find people with depression describe their

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past interaction with their ex-lover and how deeply they have felt hurt after the end of the relationship. As a result, their self-perceived inferiority, insecurity, and lack of confidence in a romantic relation sometimes lead to their self-harm behaviors, some which are narrated in queries (18) to (20).

(18) 因**感情**失敗，這半年多來曾**自殺**過兩次……我還是很痛苦、沮喪、失望、對人性失望到極點，還是會有**自殺**的**念頭**，但想想父母會傷心又停止了這般侵蝕我的靈魂的思緒，但我真的活得很痛苦。

*"Because **romantic relationships** failed, I attempted to commit **suicide** twice in the past half of year…I'm still very painful, discouraged, disappointed, extremely disappointed at human nature. I still have **suicidal thoughts**, but thinking that my parents will be sad ceases such soul-eroding thoughts. But I really live in pain."*

(19) 我從想過**自殺**，變成計畫**自殺**……只是我理智一直都很強，但我**自己**知道，下次再受刺激，我一定會走。有因為過**感情**，因為過親情，也因為過人際。前兩段**感情**，一段是另一半的家人反對……一段是我做得很好也很信任對方……但他始終劈腿，變成現在的我更沒自信，覺得我再怎麼做，對方還是會離開。

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*"I started from thinking about **suicide** to planning to **suicide**…It's just that I always retain my sanity. But I **myself** know that the next time I get peeved, I will definitely be gone. This has resulted from **romantic affections**, family affections, and also interpersonal relationship. About the previous two **romantic relations**, one was opposed by the family of my other half… And in the other relation, I did well and trusted the person…but he always cheated on me. That makes me even more diffident now. I feel no matter what I do, my other half will still leave me."*

(20) 對**自己**沒有信心，在**感情**上覺得自卑，有時候會想利用自殘的方式來取得對方的關心。

*"I don't have confidence in **myself**, feeling inferior in **romantic relationships**. Sometimes I want to harm myself in order to obtain my other half's care."*

With regard to the family issue, some possessing depressive thoughts reveal that it is the estrangement between them and their family and the environment in which they were raised that make their depressive condition worsen or deepen their thoughts to commit suicide. Such associations among domestic environment, depression inclination, and suicidal ideation are manifested in texts (21) and (22).

(21) 我朋友長期在吃**憂鬱症**的藥，也有固定看診，但他最近情緒不穩。原

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因也很複雜，有**家庭**問題（先生喝酒會找他麻煩，娘家的人不體諒也不支持他）。若有激烈爭吵就有**自殺**想法，曾經也**自殺**過（割腕）。我會聽他說，安慰他，盡量去除他想**自殺**的**念頭**，但我不知道他聽進去沒有。怕他一個人胡思亂想，或又跟家人吵架時又會做傻事。

*"My friend has been taking **depression** medications for a long time. She also pays visits to the doctor regularly, but lately she has been emotionally unstable. Reasons are complicated, including **family** problems (husband found fault with her when drinking; people in her birth family neither emphasized with her nor supported her). **Suicidal** thoughts occur if there are serious quarrels. She once attempted to **suicide** as well (cutting wrists). I listened to her speaking, comforting her, eliminating her **thought** of wanting to **suicide** as hard as I could, but I don't know whether she took it in. I'm afraid that she thinks too much by herself or does silly things when arguing with families again."*

(22) 我的父母親分別因**家庭**及健康問題，母親長期心情低落，父親的末期肺癌，不同時間先後以一聲不響**自殺結束生命**。我是沒這份勇氣，但如果有一天，我覺得失去一切時，會不會也有這種傾向！我很害怕！

*"My parents, due to **family** and health problems respectively-- mother had a low mood for a long time and father had terminal lung cancer— committed **suicide** successively at different times to **end** their **lives** without saying a word. I don't have that courage. But if one day I feel I lose everything, will I also have that*

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tendency? I'm scared!"

On the other hand, there are also cases where people suffering from long-term illnesses or intractable diseases do not want to become a psychological, physical or financial burden ("拖累" *encumber*) of the family. The wish to terminate their life is thus aroused. In example (23) below, it can be observed in the patient's narration that the parents' sense of guilt towards the family ultimately led to their suicide, which in turn induced the patient's depressive symptoms.

(23) 可能是來自**家庭**及個性因素，我一直是容易鑽牛角尖的人……但是因為這十年家裡本來經濟情況就不好，父母離異。弟弟出車禍受重創，母親為了弟弟沒有璀璨的未來，也怕**拖累**我，於四年前帶著弟弟**自殺**，父親也由於對**家庭**的愧疚，加上得到癌症，也怕**拖累**我，於半年前也**結束生命**，這些種種，使得原本就沒有自信的我,更加揮之不去孤單的感覺，我現在的情況是，只要遇到我在意的事不順利，我就會非常非常沮喪，**憂鬱症**中的覺得**自己**很沒用，想**結束生命**的**念頭**就浮現，我很害怕若是我又遇到重大打擊會真的受不了！

*"Perhaps due to **family** and personality reasons, I always tend to split hairs…But because the economy in the family was not good in the past decade,*

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my parents divorced. Younger brother was severely traumatized in a car accident. Mother, because brother would not have a splendid future and also because she feared to ***burden*** *me, took brother together to commit* ***suicide*** *four years ago. Father, also guilty about the* ***family*** *plus getting cancer, was afraid of being a burden on me. Half a year ago he also* ***ended*** *his* ***life****. All these make the already diffident me feel haunted by a sense of loneliness. My situation now is that when I encounter something I care that does not go well, I will be very very depressed. With* ***depression****, I feel* ***myself*** *useless. The* ***thought*** *of wanting to* ***end*** *my* ***life*** *emerges. I'm very afraid that I will not be able to stand it if I encounter a major setback again!"*

According to *DSM-V* guidelines, difficulty thinking, forgetfulness, and poor concentration are all likely symptoms of the depressive disorder that is conceivably linked to memory problems. Below is a list of keywords in Cluster #5a, which draws attention to the relation between depression and memory.

Topic #5a MEMORY PROBLEMS

發病 attack_of_illness
憂鬱症 depression
因素 factor
患者 patients
大腦 brain
病因 cause_of_disease

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治療 treatment
壓力 pressure
記憶力 memory
恢復 recover

Table 6. Keyword cluster on the topic “memory problems” in online patient-to-provider depression communication.

Physicians analyze several factors that may contribute to the development of depression and explain to the patients that long-term depression can be thought of as long-lasting pressure which, if left untreated, may cause severe and irreversible (“恢復” *recover*) damage to the brain and result in memory impairment. Example (24) below is given by a health provider in response to a patient’s problems about memory obstacles.

(24) 如果經有憂鬱發作，確實會影響**記憶力**，有時**恢復**得很慢，甚至不易完全復原。如果是**憂鬱症**，即使憂鬱好了，仍有一些其他的症狀，如**記憶力**不佳。服用藥物也是有效的，服用藥物除了使殘餘症狀**恢復**外，也可避免下一次**發病**，導致**記憶力**進一步衰退。

*“If depressive feelings attack often, **memory** will indeed be affected. Sometimes **recovery** is slow, even not easy to fully recover. If it is **depression**, even though the depressive feelings are gone, there are still some other symptoms, such as bad **memory**. Taking medications is effective. Taking medications not only **heals** the remaining symptoms, but also prevents the **attack** next time that worsens the*

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memory *one step further."*

It has been established that memory problems are a cardinal sign of major depressive disorder. Not receiving proper care or inadequate resources for a long period of time after the attack of depression, many patients report that they struggle with memory loss or feel a decline in working memory capacity, as can be seen from entries (25) and (26).

(25) 我是高二學生，因家庭**因素**、同儕間的**壓力**關係，常感分外疲憊，時常焦躁不安，有自卑的心態……我覺得很擔心，因為我似乎還有許多的事得做，但我好疲憊，我的情緒時好時壞，沒有目標，我覺得我的**記憶力**在減退中，我是不是病了？

"I'm a second-grade high school student. Due to the family ***factor*** *and peer* ***pressure****, I often feel especially fatigued, often anxious and uneasy. I have a diffident attitude… I feel worried, because I seem to have still many things to do but I'm so exhausted. My mood swings. I don't have a goal. I feel my* ***memory*** *is decreasing. Am I sick?"*

(26) 在情況最糟的時候，我發現我的**記憶力**逐漸衰退，以前記憶深刻的事漸漸淡忘，也常常在過幾分鐘後就忘了剛剛說要做什麼。原本，我以為當

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我走出情緒的幽谷時，我的**記憶力**會逐漸**恢復**；但，事實似乎不是如此。雖然健忘的情形沒有之前嚴重了，但卻回不到最初**記憶力**很好的狀況。請問醫師，我的**記憶力**有**恢復**的可能嗎？

*"When the condition was the worst, I found my **memory** gradually declining. Things used to be impressive in memory have gradually faded away. I often forgot after a few minutes what I said I wanted to do just now. In the beginning, I thought as I overcame the emotional slump, my **memory** would gradually **recover**; but, the truth did not seem to be that way. Although the forgetfulness situation is not as serious as it was before, it cannot return to the primary condition in which **memory** was very good. Doctor, I wondered if is possible that my **memory recovers**."*

The association between depression and other disorders is one of the popular topics on depression counselling fora, as can be derived from the key terms in Topic #6a.

Topic #6a	**COMORBIDITY SYMPTOMS**
精神	psyche; vitality
疾病	illness
睡眠	sleep
影響	influence
分裂症	schizophrenia
症狀	symptom

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障礙	obstacle
精神官能症	neurosis
耗弱	frail
貧血	anemia

Table 7. Keyword cluster on the topic “comorbidity symptoms” in online patient-to-provider depression communication.

Patients may enquire whether some seemingly depressive symptoms are the results of depression or another illness, or are in fact caused by both major depressive disorder and a particular disorder. Illnesses coinciding with depression that are discussed on the counselling websites include schizophrenia, neurosis, anemia, and insomnia (“睡眠” *sleep*), among other disorders that do not appear in Cluster #6a. Instance (27) records a patient’s description of some seemingly depressive symptoms and her question about what disorder may trigger those symptoms. Note that Prozac is a medicine usually prescribed to patients with depression, as is mentioned in the following text.

(27) 我是一位十九歲的女性……與患憂鬱症的主修老師有同性戀情感，常在該課莫名大哭，同時哮喘。之前已有幻聽、被害妄想、強迫行為、嚴重退縮等現象。外婆患紅斑性狼瘡，及被疑**精神分裂症**……最近，有時又哭又笑，眼神呆滯，注意力非常分散……目前在服百憂解，但自疑是**精神分裂症**，或兩者混雜，請問您此為何疾？及請指點我該怎麼辦。

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"I'm a nineteen-year-old female… I have homosexual affections towards the instructor of my major, who suffers from depression. I often cried wildly for no reason in that class and panted at the same time. In the past I had auditory hallucination, persecutory delusion, compulsory behavior, grave flinch and phenomena as such. Grandmother suffers from lupus erythematosus and is suspected of ***psychotic schizophrenia****… Recently, sometimes I cried and laughed. Eyes were dull. Attention was very dispersed… I'm currently taking Prozac, but I myself suspect it is* ***psychotic schizophrenia*** *or the combination of both. I wondered what kind of illness is this. And please guide me in terms of what I should do."*

Symptoms accompanying these illnesses are also brought forth to consultation. Patients often tell online counsellors that their physical health and mind are frail and tormented due to the cross effect of major depression and other disorders. The patients' uncomfortable experiences derived from the comorbidity of depression and other illnesses can be exemplified by query (28).

(28) 我不舒服已經 3 年以上了，活得很痛苦。有看過中醫、精神科、內科，不過都沒有改善.....我被診斷出有地中海**貧血**和精神官能性憂鬱症，憂鬱症方面有治療但沒進展。我最痛苦的是每天都沒什麼力氣，整天昏昏沉沉的，睡覺醒來會非常暈，有點痛，要費很大的力才能醒來，之後才愈來愈

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好不過還是會累累的，晚上則**精神**較好一些。在精神科方面，我有時會很鬱卒，有時會突然覺得孤單，尤其是和朋友出去玩之後更甚。我也很容易緊張，最大的困擾是和人講話會緊張到講不出話來。以上就是我的**症狀**。

*"I have already felt ill for more than three years. I live very painfully. I had consulted Chinese medicine, psychiatry and internal medicine departments, but there was no improvement… I was diagnosed with **thalassemia** and psychoneurotic depression. With respect to depression, it was treated but had no progress. What makes me most painful is that I don't have much strength every day. I'm dazed all day, very dizzy when waking up after sleep. It is a bit painful. It takes a lot of efforts to wake up. Later it becomes better but I still feel tired. At night I have greater **vigor**. With respect to psychiatry department, sometimes I am very depressed. Sometimes I feel lonely all of a sudden, especially even so after going out with friends to have fun. I also get nervous easily. The biggest problem is that I'm too nervous to speak when talking with someone. The above are my **symptoms**."*

Besides symptoms of depression, issues with respect to antidepressants and other medications are of widespread concern to people consulting healthcare professionals via depression websites. Topic clusters #7a to #9a as follows all exemplify depression patients' regard for medical drug treatment in different aspects.

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Topic #7a	SIDE-EFFECTS OF DEPRESSION MEDICATIONS
	mg (miligram)
	思樂康 Seroquel (name of an atypical antipsychotic)
	副作用 side-effect
	樂復得 Zoloft (name of an antidepressant)
	早上 morning
	起不來 cannot_get_up (from bed)
	會醒 will_wake_up
	半夜 midnight
	病程 course_of_disease
	睡眠 sleep

Table 8. Keyword cluster on the topic "side-effects of depression medications" in online patient-to-provider depression communication.

It can be inferred from the keyword list in Table 8 that, undergoing medical treatment ("病程" *course_of_disease*), depression patients enquire about the dosage ("mg") and side-effect of medicines they are currently taking ("思樂康" *Seroquel*, "樂復得" *Zoloft*). In the narration of medical conditions, issues pertinent to sleeping ("睡眠" *sleep*) have often been brought forth to discussion. Descriptions of sleep problems as such include patients' encountering difficulty in getting up ("起不來" *cannot_get_up*) in the morning ("早上" *morning*) or staying asleep ("會醒" *will_wake_up*) during the night ("半夜" *midnight*) after taking prescription medicines. Such obstacles related to sleeping under the influence of antidepressants are demonstrated in example (29).

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(29) 我有十餘年重度憂鬱症病史，換過無數次的藥，近幾年來在署立醫院開 3 個月連續處方箋拿藥及就診，每天晚上就寢前固定吃一顆**思樂康**及兩顆戀多眠始能**睡眠**（不一定都能睡），**睡眠**狀況時好時壞，有時會**半夜**兩三點就醒來（早醒），就再吃兩顆短效型的使蒂諾斯（此藥在住家戶近的診所拿的）。近半年來有持續「頭腦發脹，思考遲滯，越思考病徵越嚴重，終至無法思考」的狀況，因為有工作，不可能不思考，且即使請假躺在床上休息也沒有用。

"I have an over-ten-year history of severe major depression and have changed medications for countless times. In the past few years I got three-month refill prescription medicines and visited doctors in a municipal hospital. Every night before going to sleep I take one pill of ***Seroquel*** *and two pills of Brotizolam on a regular basis so that I can* ***sleep*** *(might not fall asleep every time).* ***Sleep*** *condition is good sometimes but bad at other times. Sometimes when I awakened at 2 or 3 o'clock in* ***the middle of the night*** *(waking up early), I would take two more short-acting Stilnox (this medicine was obtained from a clinic in the neighborhood). For the past half of year, I continue to have the condition "distending sensations of the head; retardation in thinking; signs of illness becoming severer as I thought further, to the extent that I was unable to think". Because I have a job, it is impossible for me not to think. And even though I lay in bed to rest, it still didn't help."*

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While Topic #7a deals with the use of antidepressants, Topic #8a focuses on the withdrawal of depression medications.

Topic #8a	WITHDRAWAL OF DEPRESSION MEDICATIONS
	efexor (name of an antidepressant)
	停掉 stop (taking medicine)
	stilnox (name of a sedative)
	後來 afterwards
	空虛感 feeling_of_emptiness
	作用 effect
	症狀 symptom
	戒斷 withdrawal
	抗焦慮劑 anxiolytics
	xanax (name of an anxiolytic)

Table 9. Keyword cluster on the topic “withdrawal of depression medications” in online patient-to-provider depression communication.

It can be seen clearly from Table 9 above that, similar to the previously mentioned Topic #7a, wherein patients discuss their medication conditions with healthcare providers and state the brand names of the drugs they are taking, Topic #8a is composed of names or the type of antidepressant medicines the patients are prescribed to, for instance, Stilnox, Efexor, and antianxiety medications (Xanax, “抗焦慮劑” *anxiolytics*), as is illustrated in example (30).

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(30) 之前問的 **xanax**，是想問**戒斷**若出現反彈現象會持續多久？如何判別是病呢，還是**戒斷作用**？有藥物可緩解嗎？使用百憂解是否可緩解**戒斷**反彈的發作次數？百憂解聽說會傷害大腦，那服用多久才好？

*"Regarding **Xanax** which I asked about previously, I wanted to ask how long the rebound phenomenon will last if it occurs during **withdrawal**. How to tell if it is illness or the **withdrawal effect**? Are there medicines to relieve it? Can using Prozac reduce the number of attack times of **withdrawal** rebound? It is said that Prozac may damage the brain. Then for how long should I take it?"*

Information regarding the effects of these drugs is requested in the patients' queries and elucidated in the health personnel's feedbacks. In addition to general inquiries about the aforementioned medicines, questions concerning possible consequences after an arbitrary decision to withdraw from advised medication ("停掉" *stop*) are raised by the patients as well. For those who have stopped medical treatment regardless of the doctor's instruction, many reveal that they have experienced various withdrawal symptoms ("空虛感" *feeling_of_emptiness*) and compare their physical and mental conditions with those previously under regular medication, hence frequent appearance of the word "後來" *afterwards.* Below are texts (31) and (32), which provide detailed

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contexts concerning the effects of withdrawal from different antidepressants.

(31) 不知這是不是憂鬱症的關係，醫生是有開 **EFEXOR** 給我吃，但他**後來**發現我是屬於焦慮型的憂鬱症患者，光吃 **efexor** 不能完全達到效果，所以又開 dogmatyl 和 serenal 給我吃。有一天我突然想把 **efexor 停掉**，我發現心情和行動力都比服藥時好多了,只是**後來**有產生**戒斷症狀**但問題都解決了。但有一天發現我開始有擔心害怕的感覺，無論吃多少**抗焦慮劑**都沒起色，那時我受不了了，只好又吃一顆 **efexor** 下去，感覺居然又好多了。**後來**去給醫生複診時，他說減藥是要階段性的，若我怕吃 **efexor** 會昏昏欲睡的話可以兩顆都在睡前吃。託他的建議的福，我照做後睡眠是沒減少，但隔天一整天都隱隱約約有一種疲倦欲睡的感覺，而且情緒變的沒什麼變化，連看電影時也一點感覺都沒有（看電影時我還特地喝一杯咖啡下去，想藉此振奮情緒），那時我就打算再把 **efexor 停掉**，只要一星期吃一顆就好，那種 **efexor** 是 75mg 膠囊型的。我就像原本一樣,，吃**抗焦慮劑**而已……想說吃 **efexor** 看能不能解決問題，但我覺得那藥跟咖啡因好像也沒差多少，剛吃下去心情好多了，多吃幾次就沒什麼感覺了，可能心情還比沒吃時差，一**停掉**，**戒斷症狀**就來了。為什麼我在做自己的份內工作就會有**空虛感**、寂寞感，難道我是那種不愛工作的懶蟲嗎？

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“I don’t know if this is because of depression. The doctor did prescribe ***Efexor*** *for me, but* ***afterwards*** *he realized that I was the mixed-anxiety-depressive-disorder type of patient. Taking* ***Efexor*** *alone could not completely work out, so he prescribed Dogmatyl and Serenal for me. One day all of a sudden I wanted to completely* ***stop taking Efexor****. I found my mood and action much better than when I took medicines. It was just that* ***withdrawal symptoms*** *were brought about* ***afterwards****, but all the problems were solved. But one day I found that I started to possess feelings of worriedness and fear. No matter how many* ***anxiolytics*** *I took, it didn’t get better. I couldn’t stand it anymore at that time, so I had to take one pill of* ***Efexor****. To my surprise, I felt much better.* ***Later*** *when I revisited the doctor, he said that cutting on drugs should proceed step by step and that if I was afraid that taking* ***Efexor*** *made me dozy, I could take both two pills before bed. Thanks to his suggestion, after I did as was instructed, my sleep didn’t lessen. But the whole day next day, I felt indistinct feelings of fatigue and doziness. And emotion became unvaried, no feelings at all even when watching movies. (While watching the movie, I had a cup of coffee on purpose by which I wanted to stimulate my emotions.) At that time, I planned to* ***stop taking Efexor*** *again, only one pill a week. That kind of* ***Efexor*** *is a 75mg capsule. Just like it used to be, I took only* ***anxiolytics****… I tried taking* ***Efexor*** *to see if problems could be solved, but I felt there wasn’t much difference between that drug and caffeine. Soon after taking it, mood became much better. Taking it for more times, it didn’t make quite a difference. Perhaps mood was even worse than when not taking it. As soon as I* ***stopped taking*** *the medicine,* ***withdrawal symptoms*** *showed up. Why did I have* ***a sense of emptiness*** *and loneliness when I did my job? Am I that kind of lazy person who*

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doesn't like to work?"

(32) 這 **stilnox** 是以前剛得憂鬱症時醫生順便開給我的，大概六天前我又開始吃，吃了確實比較不會作夢。但吃了幾天後，我發現雖然有睡著，但是隔天起來卻隱約有種好像已經很多天沒睡的感覺。我前天就把這藥**停掉**，睡覺後果然就出現睡眠不足後補眠會出現的頭痛現象，而我今天的這種恍惚的感覺跟前天把 **stilnox 停掉**有關嗎？……我吃了 **stilnox** 後的感覺，吃了大約半個小時後會有一種好像酒醉的感覺，思考變的有點沒邏輯性，閉上眼睛腦海中會浮現一些自己也解釋不出來的影像，簡直像幻覺一樣，**stilnox** 給我的感覺有點像毒品。

*"The **Stilnox** was incidentally prescribed by the doctor when I first got depression. About six days ago, I started to take it gain. Taking it indeed made me dream less. But after taking it for a few days, I found although I fell asleep, the next day when I got up, I seemed to have a vague feeling that I hadn't slept for many days. I **stopped taking** this drug the day before yesterday. After the sleep, headache situation that would appear from a compensatory sleep ensuing insufficient sleeping occurred expectedly. And was my feeling of vagrancy today related to the **stop** of **Stilnox** the day before yesterday? … As for my feelings after taking **Stilnox**, about half an hour after taking it, I kind of felt drunk. My thinking became sort of illogical. When I closed my eyes, some images I couldn't explain emerged in mind, almost like hallucination. **Stilnox** for me feels kind of*

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like dope."

In addition to expressing concerns over depression medicines, patients also pose questions about other medications they take along with antidepressants. A more detailed description of the patients' request for comedication information is given below with Table 10 as an illustration.

Topic #9a DEPRESSION MEDICATIONS & COMEDICATION
服用 take (medicine)
藥物 medicine
症狀 symptom
停藥 stop_medication
類固醇 steroid
副作用 side-effect
憂鬱症 depression
減藥 reduce_dosage
抗鬱劑 antidepressant
維他命 vitamin

Table 10. Keyword cluster on the topic "depression medications and comedication" in online patient-to-provider depression communication.

For persons with severe major depressive disorder, to eradicate depression and its accompanying symptoms, medical drugs are often highly recommended by psychiatrists, along with regular consultations with counsellors. Adhering to a symptom-based

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approach treatment, patients are normally requested to take drugs depending on diverse symptoms they experience. Consequently, to understand why medical treatment is necessary to cure the disorder, patients frequently make inquiries about the functions as well as side-effects of different names of common prescription antidepressants. Similarly, the length of antidepressant withdrawal is also of concern to people undergoing medical treatment ("停藥" *stop_taking_medicine*, "減藥" *reduce_dosage*). Example (33) illustrates a patient's concerns over the side-effects of several medicines needed to treat his/her depression and the possibility of stopping medications.

(33) 日前至國泰醫院身心科門診，醫生給抗憂鬱的藥，Tryptanol ，Inderal，與安眠藥 Zopiclone，因為平時常常鑽牛角尖，容易沮喪，焦慮，睡覺時常翻來覆去，二，三個鐘頭才能入眠，且睡眠品質很差，容易驚醒，必須**服用**安眠藥，但又認為長期**服用**會有後遺症；以上抗憂鬱的藥，長期**服用**會有**副作用**嗎？若自行**停藥**，可行嗎？

"A while ago I visited the psychosomatic department at Cathay General Hospital. The doctor gave me anti-depression medicines: Tryptanol, Inderal, and Zopiclone, a hypnotic. Because I often split hairs, I get discouraged and anxious easily. I often toss and turn during sleep. It takes me two to three hours to fall asleep, and the quality of sleep is very bad. I tend to awaken suddenly. I must ***take*** *hypnotics, but I thought there might be aftereffects after a long-term* ***use****.*

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*Are there **side-effects** of the above anti-depression medicines after a long-term **use**? Is it possible that I **stop medication** by myself?"*

Moreover, questions about the outcome of taking a variety of medicines, "類固醇" *steroid* for instance, or nutrition supplies ("維他命" *vitamin*) with antidepressants at the same time are addressed to healthcare professionals as well. For instance, example (34) demonstrates a patient's worry over the repercussions of steroid while receiving treatment for her depression.

(34) 我目前有**憂鬱症**，因為我覺得我吃了**類固醇**（8 個月）還在吃的時候，我就發覺我的情緒有些不穩定，會因為一些小事情流眼淚，再加上我長期心情不好，所以就得了**憂鬱症**，請問我現在沒有吃**類固醇**了，但**類固醇**好像有影響我的情緒。是不是我現在沒吃了，而**類固醇**影響我情緒的**副作用**，是不是會不見，還是會一直有影響？

*"Currently I have **depression**, because I feel while I was still taking **steroid** (for 8 months), I found my emotions to be unsteady. I wept over some insignificant matters. Plus, I had a bad mood for a long time, so I got **depression**. Now I'm not taking **steroid** anymore, but **steroid** seems to have affected my emotions. Is it that since I'm not taking **steroid**, its **side-effect** which has influenced my emotions will be gone? Or will it always have an impact?"*

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The following three theme clusters, Topic #10a to Topic #12a, all involve discussion over the treatment for depression, ranging from typical clinical examination to non-medicine approaches. Many people consult healthcare experts online about some symptoms they have observed on themselves or others whom they presume are likely to be depressed. Although descriptions of the symptoms are provided, lack of detailed examination hinders doctors from determining whether the person in question is clinically depressed or not. Therefore, counselling professionals very often conclude with the suggestion that the inquirer talk to a healthcare provider in person or take the suspected potential depression victim to medical services for further diagnosis. Words and phrases frequently used by doctors to offer advice as such comprise Cluster #10a.

Topic #10a	**INFORMATION OF DEPRESSION TREATMENT**
	治療 treatment
	心理治療 psychotherapy
	目標 goal
	身心 psychosomatic
	提供 provide
	門診 outpatient_service
	改變 change
	滿意 be_contented
	治癒 heal
	指日可待 can_be_expected_soon

Table 11. Keyword cluster on the topic “information of depression treatment” in online patient-to-provider depression communication.

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Guidance regarding what medical departments to visit ("身心" *psychosomatic*, "門診" *outpatient_service*), what kinds of treatment a patient may choose from ("心理治療" *psychotherapy*, "目標" *goal*, "改變" *change*), and what results can be expected if adhering to the recommended course of treatment ("滿意" *be_contented*, "治癒" *heal*, "指日可待" *can_be_expected_soon*) is provided by physicians in response to patients queries online. The following text (35) was taken from a reply created by a psychiatrist on the depression forum.

(35) **心理治療**很有可能會對你有幫助，這個部份你可以請精神科或**身心**科的**門診**醫師轉介給心理師進行。至於**治療**的流程，這要看**治療**者的**治療**取向與你的問題而定，一般會有約 12 次至 20 次的療程，一週一次。前幾次會界定問題、設定**治療目標**與契約，然後針對問題與**目標**可能會有想法的澄清、行為**改變**的計畫等等。

"***Psychotherapy*** *may very likely be helpful to you. This part you can proceed by requesting doctors of* ***outpatient services*** *in psychiatry or* ***psychosomatic*** *medicine department to refer you to psychologists. As for the process of* ***treatment****, it depends on the* ***treatment*** *provider's* ***treatment*** *orientation and your problems. In general, the course of treatment will take around 12 to 20 times, once per week. The first few times will identify the problems, set* ***treatment goals***

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*and reach an agreement. And then according to problems and **targets**, there may be clarification on ideas, plans for behavioral **changes**, etc."*

Resembling Topic #10a introduced previously, in which keywords are contributed primarily by doctors, Topic #11a consists of words often produced by healthcare providers in order to encourage depression sufferers not to give up and to stay in treatment.

Topic #11a	ENCOURAGEMENT FOR TREATMENT
	治療 cure
	醫師 doctor
	病情 patient's_condition
	改善 improve
	憂鬱症 depression
	諮商 consultation
	藥物 medication
	心理 psychological
	持續 continue
	配合 collaboration

Table 12. Keyword cluster on the topic "encouragement for treatment" in online patient-to-provider depression communication.

The fight against depression can be stressful and debilitating, and it takes great patience and close cooperation with physicians ("醫師" *doctor*, "藥物" *medication*) and consultation experts ("諮商" *consultation*, "心理" *psychological*) for a complete

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recovery from the disorder. For those who suspect themselves of being depressed and others who have confronted the disorder, the course of the treatment and the time it takes for them to fully recover from the illness are of interest to them. To relieve the inquirers' anxiety and to encourage them to work in collaboration with professional personnel, healthcare providers on online depression fora often comfort the patients by telling them that a prospective progress ("改善" *improve*) is to be achieved as long as patients continue to comply with the doctor's advice and come to counselling sessions on a regular basis.

(36) 就像你說的，你的憂鬱來自於你的負向觀念的束縛，而這樣的觀念並不是短期之內造成的，而是你十幾二十年以上的經驗所累積，所以要改變它也不會是一天兩天的事，但只要你有心，**持續配合醫師**、心理師的**治療**，這些都是會**改善**的，要對自己有信心。

"Just like what you said, your distress originated from the constriction of your negative thinking. And this kind of thinking was not created in a short term but was accumulated through decades of experiences. Therefore, it won't take just one or two days to change it. But as long as you have a strong will to do it and ***continue*** *to be* ***cooperative*** *in the* ***treatment*** *given by* ***doctors*** *and psychologists, all these will be* ***improved****. Be confident about yourself."*

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Topics #10a and #11a, as have been explained earlier, touch upon professional clinical treatment for depression, whereas the following cluster, Topic #12a, emphasizes on the non-medical respect of the treatment for the mental illness.

Topic #12a	NON-DRUG TREATMENT
	關愛 care
	鼓勵 encourage
	幫助 help
	患者 patient
	我們 we
	朋友 friend
	支持 support
	憂鬱症 depression
	參加 join
	活動 activity

Table 13. Keyword cluster on the topic “non-drug treatment” in online patient-to-provider depression communication.

Many visit online counselling depression fora because they are concerned about or have recognized signs of depression displayed by their family or friends. Consequently, they desire to seek opinion from professionals as to whether the behaviors they have observed from the person in question are indeed depressive symptoms or what they can do to help their loved ones. In response to such inquiries, counsellors and physicians usually advise that they accompany the depressed to visit health care providers in person, engage the patients in outdoor exercise or activities from which they can benefit,

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encourage people with depression to get in touch with support groups, and let them know they are always listened to and cared for. Text (37) provides an example of a health provider's suggestion for people who try to help the depressed.

(37) 當**關愛**的人罹患了**憂鬱症**，你可以**幫助**他好轉。……一旦診斷確定，並且開始進行治療，你可以給予**關愛**的人無條件的感情**支持**和**鼓勵**。（一）**鼓勵關愛**的人尋求**幫助**：不妨提議陪他一起去看醫師，因為憂鬱會讓人變得比較消極，所以最好有人督促陪伴。你要一再向**患者**保證他一定能夠好起來。提醒他：治療需要一段時間才能見效。其次，你可以注意**患者**是否有按照醫師的指示吃藥。第三，隨時留意**患者**進步的徵兆，這也是一種**鼓勵**的方法。（二）提供情感的**支持**：你對於**患者**情感的**支持**—**關愛**他、了解他、忍耐、**鼓勵**—再加上一點輕鬆幽默，可以給他非常大的**幫助**。傾聽他說話，先不要下任何判斷，也不要避開憂鬱症狀的話題。……想辦法帶他去**參加**一些愉快的**活動**，例如找個好天氣出外散散心，去看場電影或者拜訪**朋友**。不過要避免給對方許多建議讓他頭昏腦脹，也不施壓力要他去**參加活動**。

*"When someone you **care** got **depression**, you can **help** him/her to get better… Once diagnosis is certain, you can offer your **loved** one unconditional emotional **support** and **encouragement**. (1) **Encourage** your **loved** one to seek **help**: You*

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could propose to accompany him/her to go to the doctor. Because depression makes people become more pessimistic, it's better to have someone in company with to be motivated. You must assure the ***patient*** *over and over again that he/she can definitely get better. Remind him/her that it takes some time for treatment to become effective. Secondly, you could pay attention to the patient regarding whether he takes medication according to the doctor's instruction. Thirdly, looking out for the signs that show the* ***patient****'s improvement is also a way for* ***encouragement****. (2) Provide emotional* ***support****: Your emotional* ***support*** *for the* ***patient****—* ***caring*** *for him/her, understanding him/her, tolerance,* ***encouragement****— plus a little bit of ease and humor can provide the person with great* ***help****. Listen to him/her speaking. Don't rush to make any judgement, and don't shun topics about depressive symptoms… Come up with a way to take him/her to* ***participate*** *in some cheerful* ***activities****, for instance, going out for a walk in a fair-weather day, going to the movies, or visiting* ***friends****. However, avoid giving too many baffling suggestions to the person, and don't put pressure to make him/her* ***join*** *the* ***activities****."*

Noticeably, health personnel often express their understanding of the situations described in the question sections and show sympathy through the use of the personal pronoun "我們" *we* in order to call for a joint effort between the care providers and people who seek help for their depressed friend or family member. Example (38) illustrates such a use of the pronoun "we" which appears in a psychiatrist's reply.

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(38) 家人看到病患情形會很心疼且感到無助，**我們**精神醫療人員都會願意幫忙的。祝平安且病患能早日康復。

"The family's heart anguish and they feel helpless when seeing the patient's condition. ***We*** *psychiatry medical personnel will all be willing to help. I wish you safe and well, and may the patient soon recovers."*

The next two topics to be introduced later, Topics #13a and #14a, both contain lexical items denoting family members. Although "family" seems to be the shared theme of these two topics and some of the keywords in the two overlap, Cluster #13a and Cluster #14a in reality depict fairly distinct scenarios respectively. The former originates from patients' description of unpleasant experiences from daily or past interaction with the family, as exemplified by words in Table 14. The unsatisfactory family environment then evolves to become the source of pressure that provokes the patients' depressive conditions.

Topic #13a FAMILY PROBLEMS
媽媽 mom
母親 mother
我媽 my_mom
父親 father
我們 we
最近 recently

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我爸	my_dad
自己	oneself
看不慣	frown
還是	as_usual

Table 14. Keyword cluster on the topic “family problems” in online patient-to-provider depression communication.

A recurrent discussion found in online depression consultation is led by depression patients, usually the younger generations, whose family members and whose nurturing environment have great impact on the development of their depressive disorder. In most cases, due to extensive contact time and thus frequent interaction, those who account for the patients’ illness most, as reported by a number of inquirers, are their birth family, especially their parents (“媽媽” *mom*, “母親” *mother*, “我媽” *my_mom*, “父親” *father*, “我爸” *my_dad*). For instance, data (38) and (39) below touch upon family issues identified by the patients in their online narration: the former describes the influence of the growing environment on the patient’s depressive feelings, whereas the latter points out conflicts with the family which stem from everyday interaction.

(38) 我因長期生活在父母感情不好的日子中。**父親**和奶奶都躁鬱症，目前**父親**也在長庚治療。不過我卻因為**父親**長期病情不穩，造成我的心情處於極度低潮。許多事情多往壞處想，而且時常動怒，也較不易控制**自己**的情

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緒。往往也覺得壓力很大，許多事我必須要一肩扛在身上，包括**媽媽**的一切。在別人面前，我會表現得很堅強，但，我卻一點也不快樂。……我現在變得很情緒化，神經質，也較不容易信任別人。我是否也像**父親**一樣？

"For a long time, I have been living in a life where parents don't get along well. ***Father*** *and grandmother both suffer from manic-depressive illness. At present,* ***father*** *receives treatment at Chang Gung Memorial Hospital. But because* ***father****'s condition has been unstable over a long period of time, my mood results to be extremely down. I tend to look on the dark side of many things, and I often lose my temper. I also have little control over* ***my own*** *emotion. I often feel a lot of pressure. I have to shoulder many things alone, including everything about* ***mom****. In front of others, I will act strong, but I'm not happy at all… I now become very emotional and neurotic. It's comparatively harder for me to trust others. Am I like* ***father****?"*

(39) 我交了新男朋友之後心情有變得比以前還好不用吃安眠藥也能入睡，但是**媽媽**很反對給我很多很多壓力，我**媽媽**是個看錢看很重勢利眼的人，她只看得起那些會讀書拿筆工作的人，她的眼裡只有錢和利益，不斷的逼我跟他分開……我最近甚至在想如果**媽媽**再逼我我就要死給他看的念頭，我甚至一點都不後悔當年自殺，如果**媽媽**真的要把我逼到無路可退，我只有這條路可以選擇了。

"After I have a new boyfriend, mood becomes better than before. Without

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*hypnotics I can also fall asleep. But **mom** opposes strongly and gives me immense pressure. My **mom** is a snobbish person who values money highly. She only looks up to those who are good at studying and those who make a living through writing. All she sees is money and profit. She continually forces me and my boyfriend to separate… Lately I'm even thinking that if **mom** forces me again, I will die just to show her. I don't even regret attempting suicide at that time at all. If **mom** really wants to force me into a dead end, this is the only approach I could choose."*

In contrast to those in Cluster #13a, family-related words as regards Topic #14a are brought up when patients portray a sense of alienation between the depressed persons and those without mental illnesses.

Topic #14a	**SELF-OTHER ALIENATION**
	他們 they
	家人 family
	可是 but
	醫生 doctor
	自己 oneself
	別人 others
	父母親 parents
	傷害 hurt
	心事 something_weighing_on_one's_mind
	取笑 ridicule

Table 15. Keyword cluster on the topic "self-other alienation" in online patient-to-provider depression communication.

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Cluster #14a touched upon patients' worries about being mocked at ("取笑" *ridicule*) or discriminated against by people who do not understand major depressive disorder well. Some patients are afraid of letting others know that they are suffering from depression due to (self) stigmatization of the mental illness. Other depressed persons are not comfortable about confiding any private matters ("心事" *something_weighing_on_one's_mind*) to others, which prohibits them from seeking help and support in time to deal with the disorder. Still other sufferers feel that when they tell others about their true feelings, very often they feel hurt because their opinions are not taken seriously or even ignored. Consequently, the lack of opportunity to reveal their inner thoughts to others may procure the development of depression. A sense of self-other alienation is conveyed in text (40), between a patient who is not used to revealing inner thoughts and her family who may have little knowledge about the depressive disorder.

(40) 我從以前就不太喜歡跟**別人**說**心事**，所以如果看**醫生**，我可能也說不出什麼東西。要怎麼跟**家人**說我有憂鬱症……**他們**對憂鬱症應該不怎麼認識，而且……我不想跟**他們**說話。我也不想**自己**變成這樣。我覺得我好像不重要，可有可無。家裡的人嫌我每天擺臉色給**他們**看，**他們**也很生氣。可是我就是覺得煩，不高興。

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*"I haven't quite liked to tell **others** about **something weighing on my mind**. Thus if I go the **doctor**, I might not have anything to say… How to tell my **family** that I have depression…**They** possibly don't know much about depression, and also…I don't want to talk to **them**. I don't want to become like this **myself**. I feel I seem to be insignificant, not indispensable. People in my family dislike me pouting at **them** every day. **They** are angry, too. But I just feel annoyed and unhappy."*

Those suffering from depression desire others' understanding of their situation and illness, on the one hand. On the other, they may reject people's concern, because they do not believe that others can truly understand how they feel without tackling the disorders themselves. Such ambivalence towards others' care and understanding can be demonstrated by the frequent occurrence of the keyword "可是" *but*. This can be illustrated by data (41) and (42) as follows.

(41) 我是個不太會把**心事**說出去的人，因此很常把事悶在心裡，而且我也不覺得跟**別人**說，**別人**會了解或是有辦法解決，以前在學校還可以找護理老師聊聊（以前有半學期是固定每星期有一天去聊天），現在完全沒有商量的對象，因為真的發生太多事了。

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*"I'm not a person who usually discloses **things weighing on mind** to others, so I very often conceal things in mind. Also I don't think when telling **others**, **others** are able to understand or come up with a way to solve it. When I was at school before, I could still find nursing teacher to talk. (Previously I went there to have a talk once a week regularly for half of a semester.) Now I have no one to discuss with at all, because so many things have happened."*

(42) 有一段時間我很想去看精神科，但去了醫院之後，想一想又不去看了，因為我也不知道該怎麼跟**醫生**說……有時候我真的很想找人談談**心事**，**可是**身邊沒有比較好的朋友，我每次都壓抑在心裡。

*"For a period of time, I really wanted to go to the psychiatry clinic. But after going to the hospital, thinking it over, I didn't want to go to the doctor anymore, because I didn't know what to say to the **doctor**…Sometimes I really wanted to find somebody to talk about **something weighing on my mind**, **but** I don't have good friends around. I suppress my thoughts every time."*

Furthermore, it is worth paying attention to the key term pronouns listed in this topic. When narrating their situations to the doctors, patients display marked psychological disjunction between themselves and others who has not experienced depression. This can be observed from the patients' choice of pronouns, "自己" *oneself*

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as opposed to "他們" *they* and "別人" *others*, in the narration. Further, the "they" or "others" referred to by the depressed persons are usually their family members ("家人" *family*, "父母親" *parents*) whom they interact most frequently with in daily life and whose misunderstanding about their illness often makes them even more afflicted. In many consultation queries, for instance in query (43) below, patients describe experience of humiliation and agony, because their family deny that they are ill with depression and may decry the urgent need to seek professional help.

(43) 憂鬱症本來好很多了，**可是**又一直受到刺激……從**家人**那邊得不到支持，而是一次又一次的**傷害**。我知道**他們**照顧我辛苦，**他們**總說些你永遠都不會好，不知道養你要做什麼，你怎麼這麼自私，你很過分，你無病呻吟，令我恐懼的不在於這些言語，**他們**總是用歇斯底里的方式罵我，甚至在我發作的時候，憂鬱最嚴重的時候，打我，而**他們**都抱怨我為什麼不願意把**心事**告訴**他們**卻願意告訴醫師？我對**他們**已經是有很嚴重的恐懼存在了，常常我要躲在被窩裡不斷發抖，最後只能爬起來吞 xanax 讓**自己**安定……我不敢求助於**家人**，之前曾求助於生命線，事後，被**家人**察覺下場又是受到很大的傷害，我又割腕了，我好想自殺，只有醫師同理我，我到學校去輔導老師也不同理我，總是說，我自找麻煩……這些傷痛是永遠也沒有辦法彌補的。我真的好想死！而目前我跟**家人**仍然冷戰中……

"*Depression had become much better,* ***but*** *I was continually peeved…From*

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__family__ I could never get support but __harm__, one after another. I know it's toilsome for __them__ to take care of me. They always say things like "You'll never get well.", "I don't know what I feed you for.", "How can you be so selfish?", "You're way out of line.", "You're just whining." What makes me fear most is not these words. __They__ always scold me in a hysterical way and even beat me during my episode when depression was most severe. And __they__ all complain that why am I not willing to tell __something weighing on my mind__ to __them__ but to the doctor. I already have a terrible fear towards __them__. Usually I have to hide in bed and can't stop shaking. Eventually I can only get up and take Xanax to calm __myself__…I don't dare to turn to my __family__. Previously I have turned to Lifeline. Afterwards, as this was discovered by my __family__, I was gravely harmed again as a result. I cut my wrist again. I want to suicide so badly. Only the doctor emphasizes with me. I went to school and the counsellor wouldn't empathize with me, always saying that I had it coming…All these pain will never be compensated for in any way. I really want to die! And so far my __family__ and I are still in a cold shoulder mode…"

Below is the last topic to be discussed in online patient-physician consultation about depression, which seems to be distinctively disassociated with any of the themes that have been explored previously.

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Topic #15a COMPLIMENTS
醫院 hospital
敬覆 in_respectful_reply
健康 wishing_you_health (as in complimentary closing)
如意 all_the_best (as in complimentary closing)
精神科 department_of_psychiatry
憂鬱症 depression
身體 body
醫師 doctor
疑惑 concerns
先生 sir

Table 16. Keyword cluster on the topic “compliments” in online patient-to-provider depression communication.

The majority of the words or expressions in Topic #15a are produced by counselling experts in response to patients’ previous inquiry posts. These key terms are not specifically related to the knowledge or information about depression per se; instead, they are employed primarily for the purpose of expressing regards and politeness (“敬覆” *in_respectful_reply*, “健康” *wishing_you_health*, “如意” *all_the_best*). Also to be noted is that these phrases are fixed expressions in formal letter writing and therefore occur exclusively in written form of consultation as opposed to real-time clinical encounters. A typical reply from a care provider to patients who suspect that they themselves or people they know of might be suffering from depression usually starts with a salutation (“先生” *sir*), followed by an explanation of possible mental as well as

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physical (“身體” *body*) symptoms associated with the disorder. In many cases, the experts' responses then proceed to a suggestion that the potentially depressed consult immediately with a mental health professional (“醫師” *doctor*, “醫院” *hospital*, “精神科” *department_of_psychiatry*) for more careful diagnosis or if they have further questions (“疑惑” *concerns*), and at last the replies normally end with a complimentary close at the end of the answer section.

In the discourse subjects that have been explored so far in patient-to-provider depression counselling, many of themes are found to be connected to a variety of depressive symptoms, including Topics #1 to #6. Another general topic to be touched upon is depression medications, which occurs in Clusters #7, the side-effects, #8, withdrawal, and #9, comedication. Yet another recurrent broad topic in the patient-physician communication is the treatment of depression. Such a topic appears in themes #10 to #12, ranging from standard medical procedures to alternative non-drug approaches. Furthermore, family problems and the alienation between the depressed and non-patients also emerge as cardinal topics in online professional consultations.

4.3. Topics in peer-to-peer depression communication

After application of topic modelling techniques to the peer-to-peer depression

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corpus, fifteen discussion themes are revealed amongst all of the postings in the Prozac Board on PTT. Results from topic modelling indicate that communication topics among peer patients cover five broad themes: source of pressure, depressed mood, peer support, non-drug treatment, and experience sharing. Topics emerging from the peer discussion context are shown in Table 17.

Topic	Title
#1b	**Psychological pain**
#2b	**Unmanageable life**
#3b	**School life**
#4b	**Career**
#5b	**Family problems**
#6b	**Hopelessness**
#7b	**Interpersonal relationships**
#8b	**Encouragement**
#9b	**Birthday**
#10b	**Exercise**
#11b	**Consultation**
#12b	**Recommendation of healthcare providers**
#13b	**Clinical encounter**
#14b	**Reaction to depression medications**
#15b	**Heritability of depression**

Table 17. Topics in online peer-to-peer depression communication.

The first topic to be introduced in peer depression communication concerns one of the causes of pressure that brings about the patients' negative mood. Corresponding to a certain extent to Topic #14a "self-other alienation" in online patient-to-provider

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counselling discourse, Topics #1b and #2b in depression communication amongst the patients also presents a division between the depressed narrators and other people who do not have a comprehensive knowledge about major depressive disorder or show no empathy, from the patients' perspective, for the sufferers of the illness. Key terms of Topic #1b are listed in Table 18 below.

Topic #1b PSYCHOLOGICAL PAIN
你們 you
為什麼 why
不要 do_not
真的 really
痛苦 pain
傷害 hurt
知道 know
沒有 there_is_not
拜託 please
是不是 whether

Table 18. Keyword cluster on the topic "psychological pain" in online peer-to-peer depression communication.

As stated earlier in the exposition of Cluster #14a, many struggling with depressive conditions face the dilemma of whether to confide their inner thoughts to people who have never experienced the mental disorder. The sense of severance from the non-patients emerges as depressed persons refuse the care or offer of help from others

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whom they do not think can resonate with them. Nevertheless, at the same time, the mentally ill may still hope that their inmost feelings can be understood and voice be heard. Such ambivalence towards the concern and support given by the non-depressed group is also discovered in the articles posted on the peer-to-peer forum.

The manner in which patients express the feeling of self-other estrangement differs in patient-to-provider and peer-to-peer communication, however. From the patients' online consultations with healthcare professionals, it is observed that the depressed may opt to take the initiative in denying access to communication with the non-patients (*e.g.* "我不想跟他們說話" *I don't want to talk to them* in query (40) and "而且我也不覺得跟別人說，別人會了解或是有辦法解決" *Also I don't think when telling others, others are able to understand or come up with a way to solve it* in (41)) and meanwhile still retain the right to (re)establish an interactive relationship in the disconnection of themselves from the others (for instance, as has been demonstrated in example (42), "有時候我真的很想找人談談心事" *Sometimes I really wanted to find somebody to talk about something weighing on my mind*). Compared to the voluntariness, or free will, displayed in the discussion of self-other alienation in patient-physician counselling, depression sufferers' passiveness and vulnerability appear to prevail as they disclose the sense of detachment from an objectionable interpersonal relationship to their peers. In other words, instead of possessing the initiative to cease their connection with others,

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these patients seem to be powerless in being associated with distressing interactions and have no choice but to be impacted by the misunderstanding deriving from people without empathy. Such involuntary involvement in an interpersonal relationship and undesirable influence from the non-depressed have caused emotional pain in depression sufferers, as can be illustrated by post (44). Moreover, not only do patients seem helpless in extricating themselves from the opinions imposed by others, but they sometimes have to entreat the pain inflictors to keep away from themselves.

(44) **痛苦**就是**痛苦**，不管是什麼原由所造成的**痛苦**，就是造成我們的困擾。**拜託你們**，閉嘴好嗎？言語會殺人的。既然**你們**一直口口聲聲說「都是一家人才會這樣講，是為你好」那**為什麼**不閉嘴？欺負不懂逃跑的人很好玩嗎？

*"**Pain** is **pain**. No matter the **pain** is caused by what reason, it results in our worries. Could **you please** shut up? Words can kill. Since **you** keep on saying "We say this because we are all family. It's for your own good." then **why** don't you shut up? Is it fun to bully someone who doesn't know how to escape?"*

In the patient-physician communication, the pronoun "他們" *they* is used to refer to those who, usually members in the family, fail to interpret how seriously the patients have agonized over depression and in turn inflict greater torment on the depressed. In

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contrast, besides the word "他們" *they* (as to be discussed later in Topic #3b in this section), the second-person plural pronoun "你們" *you* is another term often used by the patients in peer-to-peer communication to address people who cannot relate to their suffering. It should be noted that while the depressed discuss with the peers over Topic #1b, the keyword "你們" *you* in the cluster does not denote the addressee— other patients on the depression fora— but in fact signifies the outsiders with little understanding or support for the depressed persons. While "你們" *you* does sometimes refer to the family, as demonstrated in the aforementioned example (44), oftentimes it does not involve an apparent identification of any person, albeit the actual intended audience can be entailed from the context (certain group of people who blamed the patient in post (45) and those who told the depressed person to look on the bright side in (46), for instance).

(45) **為什麼你們**都在怪我，怪我，而不是安慰我。我自己就會怪自己了**你們知道**嗎？我想要的只是幾句安慰拍拍，**為什麼**這麼困難，怪我，我只好自己窩起來哭，一直哭，**你們**還是怪我。**是不是**根本**沒有**人會愛我，而不是怪我？

*"**Why** are **you** all blaming me, blaming me, and not comforting me? Do **you know** that I alone will blame myself? All I want is just some comforting and patting. **Why** is it so difficult? Being blamed, I can only nest in bed to cry and*

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cry continually. ***You*** *still blame me.* ***Is it that*** *fundamentally* ***these is no*** *one to love me but to blame me?"*

(46) 很多人都叫我**不要**想太多，很多人都叫我想開一點，但，**你們知道**這有多難嗎？**你們**又何曾站在我的立場替我想過了？**不要**講的那麼簡單！

"Many people told me ***not to*** *think too much. Many people told me to think positive. But do* ***you know*** *how hard it is? When have* ***you*** *put yourselves in my shoes?* ***Don't*** *talk like it's so simple!"*

Interestingly, many of the key terms in the present cluster are not content words directly associated with depression but function words ("為什麼" *why*, "不要" *do_not*, "真的" *really*, "沒有" *there_is_not*, "拜託" *please*, "是不是" *whether*) that often appear in general colloquial context. Although online patient-physician and peer-support depression fora are both asynchronous and anonymous, this homogeneous nature does not seem to encourage the depressed to voice their discontent with tormentors to health professionals but to other potential depression sufferers in a censuring manner as displayed in posts (44) to (46). Instead of providing explicit narrations as to why their negative feelings were elicited, patients tend to jump into the denouncement of those pain inflictors and pose unsolvable puzzle often led by the interrogation opening "你們

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知道嗎” *do you know* and “為什麼” *why*. These unanswerable, monologic questions suggest that depression sufferers take advantage of the peer support forum as an outlet for their negative emotions. Therefore, it may be inferred that the patients’ behavior of bringing forth unanswerable riddles delivers a need for audience and accompany, rather than a desire for solution to emotional and interpersonal perplexities. Moreover, the imploration starting with “拜託” *please* signals the post creators’ vulnerability and helplessness. It should be clear in example (47) that the author of the post not only conveys a sense of self-other estrangement but also pleads for an actual, physical isolation of her herself from the pain inflictors.

(47) **不要**繼續在我眼前出現了！我很怕我**真的**會不小心親手殺了**你們**！**知道**你的事情讓我心裡更難承受，我選擇讓**你們**所有人遠離我，**拜託不要**再接近我了，我只會更難受。

“***Don’t*** *keep on showing up in front of me! I’m afraid that I will* ***really*** *kill* ***you*** *by myself accidentally!* ***Knowing*** *things about you makes my heart even harder to endure. I choose to let all of* ***you*** *stay away from me.* ***Please don’t*** *get close to me anymore. I will only feel worse.”*

Similar to Cluster #1b, wherein people with major depressive disorder are found to

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be entangled in emotional turmoil arising from others' misunderstanding and lack of empathy, Topic #2b also brings forth the patients' pessimistic state of mind in which they fall prey to other people's opinions or behaviors. Below is Table 19, which is composed of keywords expressing the depressed persons' negative thoughts that stem from their failure to lead a life under control.

Topic #2b	UNMANAGEABLE LIFE
	自己 oneself
	別人 others
	為什麼 why
	覺得 feel
	討厭 dislike
	想要 want
	人生 life
	無法 cannot
	有時候 sometimes
	控制 control

Table 19. Keyword cluster on the topic "unmanageable life" in online peer-to-peer depression communication.

On the peer support depression forum, people experiencing the mental illness reveal their frustration in maintaining a life unaffected by the interference, whether intentional or not, from others whose existence, or even absence in some cases, evolves to be a critical source of pressure for the depressed. Although expressing a desire to stay

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independent in the way they live, depression sufferers also narrate in their online articles that such attempts are unsuccessful either because they do not feel comfortable disregarding other people's judgements thoroughly or because the influence from others is so strong that they cannot avoid or be free from entanglement with those stress producers. Post (48) exemplifies a patient's predicament in which he finds himself obstructed in carrying through his own way of living but at the same time perplexed about behaving in conformity to other people's expectations.

(48) 有種照著**自己**的想法走也不行，也不知道**別人**到底要我怎樣的無力感。當然可以完全不理會跟我想法不同的人，但是再丟下去就要沒朋友了。我的**人生**好像也是一樣的，**自己**的路走不通，但是又沒辦法照著**別人**的路走。

*"These is a sense of feebleness, as if I can't follow **my own** heart and neither do I know what **others** in the world want me to do. Of course I can completely ignore people whose thinking is different from mine, but I will hardly have friends if I keep on abandoning them. My **life** seems to be the same. I can't walk down **my own** path, but I can't follow **some else**'s path, either."*

Resembling Topic #1b in the way whereby depressed authors release their negative emotions, the current theme of peer-to-peer discourse is often delivered in the form of

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monologue (as shown in example (48) above) or riddles led by the interrogative "為什麼" *why* while lacking a definite answer (for instance, in post (49) below). It is not uncommon to see posts full of depiction of an unsatisfactory, unmanageable life; yet, the post creators often do not explicitly ask for a solution or advice from the peer readers who may reply to share their experience in terms of how to get themselves out from the unsettling situations. The patients' act as such may be deemed a need for emotional catharsis and comfort, rather than a feasible scheme to terminate besetting interpersonal problems. Furthermore, the depressed individuals' feeling of self-other disassociation emerges from the patients' repugnance at other people who have greatly interfered with their emotional independence. Again, in text (49), although the contributor of the post claims that he refuses to be troubled by people's opinions, it can be recognized in the narration that such negative impacts from others have appeared to provoke depressive mood in the patient himself.

(49) 明明是**自己**賺的錢，**為什麼**不能用在**自己**身上呢？好像又要開始低潮了，**覺得**不管怎麼努力，我他媽的都過不到**自己想要**的生活，**為什麼**我都處理不完**自己**的麻煩，**別人**還要丟更多麻煩給我？我**討厭**斬都斬不斷的親人關係……我不要再假裝**自己**多孝順多乖，我只**想要**照顧好我**自己**，隨便說我自私冷血都好，我不想去在乎。

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*"I earned the money **by myself** obviously. Why can't I use it for **myself**? Low mood seems to start again. I **feel** no matter how much effort I have made, I can't freaking live the life that I **myself wanted**. **Why** when I can't deal with all the troubles of **myself**, **others** still want to throw more troubles on me? I **hate** entangling kinship relations…I'm not going to pretend that I **myself** show filial piety and obedience anymore. I just **want** to take care of **myself**. It is fine that I am arbitrarily said to be selfish or cold-blooded. I don't want to care about it anymore."*

Coming from people who have great an impact on the narrating patients, the hurtful language in Cluster #1b and the disturbance in life in Cluster #2b both give rise to the depressed persons' psychological turmoil and saturnine state of mind, which strongly point to the symptoms, as well as the diagnostic criteria, of major depressive disorder that have been specified in *DSM-V.* Caused by other people's conceptual or behavioral intrusion upon their seclusion, the patients' condition of social alienation hence develops further. Moreover, for those confronting the mental illness, such unthoughtful words and acts become the origin of pressure that may exacerbate the patients' condition. Besides what have been probed into in themes #1b and #2b, there are several more sources of stress to be introduced in Topics #3b to #5b as follows that are identified by the patients in their communication about depressive thinking or symptoms with the peers, including their life at school, unfavorable circumstances in

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the workplace, and domestic problems.

As one of the triggers of the patients' pensive mood, the depressed persons' daily experiences at school are brought into focus in the peer-to-peer discourse related to the depressive disorder. Below is Table 20, which is composed of top terms all centering upon the experiences that the depression narrators' have undergone in schooling environments.

Topic #3b SCHOOL LIFE
他們 they
學校 school
老師 teacher
同學 classmate
休學 defer_study
畢業 graduate
覺得 feel
因為 because
所以 so
後來 afterwards

Table 20. Keyword cluster on the topic "school life" in online peer-to-peer depression communication.

When patients describe their life at school, the pronoun "他們" *they* they refer to often denote people with whom they do not want to associate, and in many cases, this means their classmates ("同學" *classmate*). Coping with the classmates and people at school

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can be a cause of stress for the depressed. Furthermore, for some, the sense of social detachment from their same-aged learning peers thus occurs within school settings, as is illustrated by example (50) below.

(50) 之前有個男**同學**叫我「XX 哥」，那是高中分組專題時一個**同學**替我取的綽號，但那男**同學**不是我高中**同學**，不過他和我高中**同學**是一團的，我就開始在那裡想是不是**他們**有私底下說我什麼，是不是**覺得**我老是一個人不合群很難說話、我是醜八怪、我 blablablabla、說以前班導都說我活在一個人的世界怎樣怎樣。一個根本不認識的人叫我「XX 哥」，這是想表示友好還是想要嘲笑我啊？雖然班上有一兩個會找我說話，但我還是常常不知道要回什麼。有時候**同學**們會有一些表示友好的肢體接觸我也不想回應，簡單來說就是**學校**生活真是太令人難受了。

*"A male **classmate** called me 'XX bro' before. That's a nickname a **classmate** gave me back in the time when doing a high school group project. However, that male **classmate** is not my high school **classmate**, but he was in the same group with my high school **classmate**. I then began to think whether **they** talked something about me in private, whether they felt that I'm always alone, uncooperative, hard to converse with, and that I'm ugly, I'm blablabla, saying my previous homeroom teacher said that I lived in my own world and so on and so on. A person I completely don't know about calls me 'XX bro'. Does this mean that he wanted to show friendliness or to mock me? Although there are*

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*one or two people who will come to me to talk, I often still don't know what to respond. Sometimes **classmates** made some physical contact to show friendliness, and I didn't want to respond, either. Simply put, **school** life is so unbearable."*

Owing to poor interaction with peers at school or academic pressure of entering higher education, one of the common outcomes students with depressive symptoms tend to end up with is to postpone their study or to drop out from school. In post (51), the development of a patient's depression condition is portrayed in detail, with regard to whether the pressure from schoolwork existed or have ameliorated gradually.

(51) 我高中開始有憂鬱症症狀，那時候情況很嚴重，試圖自殺、被醫生判重度憂鬱，然後**休學**，**休學**、復學都沒用，藥吃了一堆。**後來**轉到另一個**學校**之後，就漸漸好起來，那個**學校**毫無升學壓力，**所以**可能壓力造成，一直到大二都沒有復發。

*"I have had depression symptoms since high school. At that time, the condition was very serious. I attempted to commit suicide and was diagnosed with severe clinical depression by the doctor. Then I **deferred study**. Neither **deferring study** nor resuming it had worked. I had taken piles of medicines. **Afterwards**, after being transferred to another **school**, I gradually got better. At that **school**, there was no pressure of admission to higher education. **So** perhaps caused by*

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pressure, depression had not relapsed until sophomore year."

Not merely do academic pressure and interpersonal relationships with the peers that concern the depressed, but the future phase of life that ensues after graduation from school are also conceived as a cause of the patients' worrisome mind. Depicted in text (52), a depressed person exhibits anxiety towards and uncertainty about her upcoming life after graduating from school.

(52) 我真的好認真的思考**休學**的事情，媽媽說再 3 個月就可以**畢業**了，又不是說**畢業**就可以**畢業**的。就算**畢業**了呢？我何去何從？看到**同學**們一個個找到工作，我呢？我可以做甚麼？

*"I'm really thinking very seriously about **deferring study**. Mom said that I could **graduate** in three more months, but it's not that I say I want to **graduate** and I can **graduate**. What if I **graduate**? Where do I go? Seeing **classmates** getting jobs one after one, what about me? What can I do?"*

For people facing major depressive disorder at schooling ages, interpersonal relationships with the classmates and stress from schoolwork are the primary reasons that result in their depressive conditions. In contrast, for adult sufferers of the illness, it

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is the strain originating from workplace, or oftentimes from unemployment on the contrary, that contributes to their depressive symptoms. Table 21 comprises keywords closely related to the tension from work that brings both psychological and physical encumbrance to the patients.

Topic #4b CAREER	
工作	work
上班	go_to_work
面試	interview
老闆	boss
公司	company
生活	life
同事	coworker
主管	supervisor
客人	customer
收入	income

Table 21. Keyword cluster on the topic “career” in online peer-to-peer depression communication.

As can be observed from example (53) below, patients express worries over work issues and some describe the symptoms of depression that occur due to stress associated with their career life (“工作” *work*). Various sources of pressure stemming from the workplace are pointed out by the depressed, including how to improve their work performance, how to change the feeling of indolence about going to work (“上班” *go_to_work*), and how to maintain a peaceful mind while dealing with a demanding

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supervisor (“老闆” *boss*, “主管” *supervisor*) or unfriendly colleagues (“同事” *coworker*). In addition, scenarios as regards how the patients have been treated by the customers (“客人” *customer*) in an unfair way are also narrated in the posts on the peer-support forum.

(53) 在家**上班**，接老爸**工作**，**收入**還不錯，但是很有危機意識，很怕**客人**流失，但是又身兼多職（接電話、介紹產品、處理訂單、記帳），沒辦法當業務，只要有一天沒出到什麼貨，就會焦慮，怕生意被搶走，而且記憶力不集中，每天**上班**都沒什麼衝勁。

*“I **work** at home, getting **work** from dad. The **income** is pretty good, but I have crisis awareness. I’m afraid that the **customers** may leave. But I’m responsible for multiple jobs (answering the phone, introducing products, handling orders, bookkeeping). I can’t be a salesperson. I feel anxious if not many goods are delivered even in just one day. I fear that the business is taken away. And I can’t concentrate on memory. I’m not motivated every day when I **go to work**.”*

In their narration of disheartening experiences related to the job market, many of the depression sufferers also describe disquietude about their current state of unemployment. Worries over job interviews (“面試” *interview*), working environments (“公司” *company*), salary (“收入” *income*), and interpersonal relationships with the employer

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and other employees are all of considerable concern to the depressed group encountering joblessness. The aforementioned reasons altogether constitute pressure induced by work, which becomes a heavy psychological burden on people who are in search of jobs, as exemplified in text (54).

(54) 表面看似什麼都沒發生，**生活**還算正常，卻想要躲起來一個人過**生活**。不想接觸學校，卻推掉一個一個的**面試**機會。我不夠喜歡那些**工作**。我好怕找不到**工作**，我怕找到的**工作**存不了錢、養不活自己，我怕被拿來比較，我怕弟妹的紅包、孝親費，儘管家人沒要求我，我怕找到的**工作**家人不喜歡，我怕找到的**工作**勾心鬥角的，我怕自己可能情緒一上來就不去**上班**了，我怕**老闆同事**不喜歡我。

*"It seems nothing has happened on the surface. **Life** is considered normal, but instead I want to hide and live a **life** on my own. I don't want to have a contact with school, but I pushed away **interview** opportunities one after one. I don't like those **jobs** enough. I'm so afraid of not being able to find a **job**. I'm afraid the **work** I find will not allow me to save money to feed myself. I'm afraid to be compared. I'm afraid of my younger siblings' red envelopes and allowance for parents. Although my family didn't ask of me, I'm afraid my family will not like the **job** I find. I'm afraid the **work** I find involves intrigue against one another. I'm afraid that once I lose my temper, I possibly won't **go to work**. I'm afraid that the **boss** and **coworkers** will not like me."*

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Yet another source of pressure imposed on the depressed persons originates from domestic problems. Akin to Topic #13a derived from the patient-professional queries, which centers on family issues, Topic #5b to be probed into shortly also presents household disharmony as the focus of discussion among people with depression. Bearing similarity to the “family problems” cluster in the consultation with healthcare providers, Topic #5b contains lexical items that overlap with those in theme #13a, for instance, the terms “媽媽” *mom*, “我媽” *my_mom*, and “我爸” *my_dad*. The following Table 22 shows the entire list of keywords that form the theme Cluster #5b.

Topic#5b	FAMILY PROBLEMS
媽媽	mom
我媽	my_mom
爸爸	dad
我爸	my_dad
家人	family
弟弟	younger_brother
父母	parents
回家	return_home
小孩	child
離婚	divorce

Table 22. Keyword cluster on the topic “family problems” in online peer-to-peer depression communication.

Parallel to what has been explored in problems related to the family in

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patient-to-provider counselling, unpleasant childhood experiences and home environments lacking parental care are too brought forth in the discourse among the depressed group and are deemed contributing factors to the patients' depressive conditions. Instance (55) below is excerpted from a post in which the author describes how his family background accounts for the development of depression and how it has led to his disbelief in romantic relationships.

(55) 從小，我就在一個不被祝福的家庭長大。**爸爸**愛喝愛賭，甚至會對**我媽**拳腳相向，**我媽**也因為這樣，最後受不了選擇**離婚**。我很高興，很高興**我媽**不用再受這樣的鳥氣。但很不幸的，我的撫養權卻還是歸**我爸**，兩個**弟弟**歸**我媽**。國小那幾年，我一直活在家暴的陰影之下，那幾年我過得膽顫心驚。

"Since I was little, I grew up in a family without blessings. ***Dad*** *likes to drink and gamble. He would even beat* ***my mom****. Because of that,* ***my mom*** *finally couldn't stand it and chose to* ***divorce****. I was glad, glad that* ***my mom*** *no longer had to endure this. But unfortunately, my custody belonged to* ***my dad*** *and my two* ***younger brothers*** *belonged to* ***my mom****. During the years at elementary school, I have always lived in the shadow of domestic violence. I was kept in tenterhooks in those years."*

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Although the keywords in Table 22 are mostly related to family members, it is not just the discontented interaction with the birth family that makes the patients despondent. Frustrating experiences of associating with the relatives too are conceived as a cause of pressure that further provokes the patients' disconsolate feelings, as demonstrated by post (56).

(56) 我無法承受別人對我失望的眼神我們又不是完美的，當然會有人失望啊！我爸媽要我**離婚回家**當**我媽**全職看護，我阿姨罵我沒有每天關心**我媽**還笑我看醫生沒有用……去年這時候，我阿姨罵我，說我精神病害**我媽**被影響也生病，今年前陣子她又打來，說**我媽**生病是身邊的人害的，然後說她自己最近覺得不快樂也是身邊的人（**家人**、子女、認識的人）害的。

*"I can't stand others' look of disappointment at me. We are not perfect. Of course there are someone to be disappointed! My parents want me to **divorce** and **return home** to be **my mom**'s full-time care giver. My aunt scolded me about not caring **my mom** on a daily basis and also mocked at me, saying that going to the doctor was useless…Last year around this time, my aunt scolded me, saying that I'm a psycho who made **my mom** sick as well. This year, she phoned again a while ago, saying that **my mom** is sick because people around her made her so. And then she said her feeling of unhappiness lately was also caused by people around her (**family**, children, acquaintances)."*

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Moreover, the domestic issues can be extended to the family of a patient's other half. It is not uncommon to see sufferers of depression disclose their concerns about forming a new family to other depressed people. Article (57) below depicts a patient's discord with her birth family, questions about her partner's family, and uncertainty about a potential new family with her future spouse, all of which have deepened the patient's sullen mood.

(57) 我開始懷疑我們的未來，他的**父母**一直問結婚的事呵呵。想如果他的**父母**知道我是這樣，還會要結婚嗎？我的狀況服用的藥物，精神狀態都沒辦法懷孕，我懷孕兩次都在 8、10 週時決定拿掉（呵呵肩膀有點重）。他知道我的病情但我懷疑他真的懂嗎……我的家庭其實之前的關係也有問題……唉，姊姊和父親才兩個人最好還能怎樣，我吃過家庭不和的苦頭，我實在不想再攪和進去。我好討厭那些感情不好的夫妻，為什麼不**離婚**呀？還有你們知道為什麼他爸媽吵架就要他回去嗎？我真的很不懂，我真的很不懂。

*"I started to have doubts about our future. His **parents** kept asking about getting married (chuckle). If his **parents** know that I'm like this, will they still want a wedding? The medicines I'm taking for my condition and my mental status both*

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won't allow me to get pregnant. I was pregnant twice and decided to have an abortion in the eighth and the tenth week (chuckle, shoulders kind of heavy). He knows about my illness condition, but I doubt if he really understands…Frankly speaking, the past relationship in my family was also problematic…Alas, older sister and father had better do nothing more with just the two of them. I have tasted the bitterness of household disharmony. I really don't want to get involved in it anymore. I dislike those married couples who have a rocky relationship so much. Why don't they ***divorce****? And do you know why his parents want him to go back home once they have a quarrel? I really don't get it. I really don't get it."*

While discussion themes #1b to #5b all surround narrations of the patients' pessimistic thinking and tendency toward social alienation, Topic #6b specifically spotlights the patients' sense of hopefulness about life and helplessness regarding their illness. Words used by the depressed to express a dismal perspective on their future are listed in Table 23.

Topic #6b HOPELESSNESS
拍拍 pat_pat (to comfort someone)
為什麼 why
不要 do_not
好累 so_tired
難過 sad
這麼 such
一直 constantly

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好痛	hurt_so_much
沒有	there_is_not
放棄	give_up

Table 23. Keyword cluster on the topic “hopelessness” in online peer-to-peer depression communication.

As patients fight against the debilitating mental disorder, the thought of forgoing possibility of a full recovery may constantly emerge from their mind. Addressing in the form of interrogations (“為什麼” *why*) that may not be answered anyone, including the inquirers themselves, the depressed again seek audience who can relate to their feelings of hopelessness. There can be varied purposes in terms of why patients discuss the helpless feelings with other people experiencing the same disorder. Conceivably, one of the reasons for writing on the peer-support forum is to obtain support from others. In the majority of cases as such, the authors of the posts indeed receive comforting words from other patients’ online response through the expression “拍拍” *pat_pat* which is a gesture of care and comradeship among the depressed group. Replies (58) and (59) demonstrate such a usage.

(58) 唉，還是賴活著吧。**拍拍**！

“Alas, a living dog is better than a dead lion. ***Pat pat****!”*

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(59) **拍拍**，離開這些人。**拍拍**，你好堅強，從過去到現在會漸入佳境的。

*"**Pat pat**. Get away from these people. **Pat pat**. You're so strong. Things will get better and better from the past to the present."*

Another motivation for the patients to create posts that touch upon the hopeless view of life is to encourage themselves not to give up in the fight against depression and to invite people to share their past experiences of conquering the disorder. While the above reasons are true, in many posts, it is often found that the patient narrators seem to have a conversation with themselves at some times and with their depressed peers at other times when expressing their negative state of mind. When the thought of a hopeless life is conveyed, symptoms of major depressive disorder tend to appear in the patients' articles as well. These signs of depression include other dispirited moods, suicidal ideation and acts, and irrational sense of guilt or self-worthlessness, along with other symptoms stated in *DSM-V*. In text (60), it can be seen that although the patient portrays herself as persistent enough to continue to live, she nevertheless denies the value of her life. Furthermore, living seems to be a duty she has to fulfill in virtue of other people's expectation. Note that an inappropriate feeling of guilt accompanies the patient's pessimistic view on life and the recovery of her illness.

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(60) **不要**對人有所要求，我們能要求的只有自己。**不要**期待母親或男友或朋友理解為何憂鬱、憂鬱到什麼程度，更別期待包容、支持和分擔。**沒有**誰該扛起誰，**沒有**誰會撐起誰，**沒有**誰能拯救誰。我只要記得前進就好。...明明擁有的**這麼**多，居然覺得是壓力，我到底人格多低劣多該天打雷劈？但真的**好累**了……我討厭自己只能躲起來癱軟著**一直**哭**一直**哭**一直**哭，討厭腦海裡停不下來的負面思考，討厭自己**為什麼**打出來的都是這些懦弱的不堅強的不夠努力的字眼，討厭自己明明**沒有**不快樂的資格和理由卻還**一直難過一直難過一直難過**，諮商師說要讓自己休息，可是都**這麼**爛了怎麼能休息啊……為何要好起來，好起來是一件**這麼**累的事，真的好的起來嗎？我**好累**了。說不想讓他們失望，其實最失望的人**一直**是自己。他們很愛我，所以更不想讓他們失望，但**為什麼**我會是這個樣子的呢？……那些失望的不理解的眼神和話語，我一個字都不想再聽到了，**好痛好痛**。比起來還是就繼續**好累好累**吧。我還會活下去，還會，打字只是抒發一下，提醒自己這一切有多愚蠢。不可以**放棄**，雖然很累，還不是**放棄**的時候。雖然很想**放棄**了。對不起，我如此自私自利，只考慮自己。

*"**Don't** ask anyone of anything. Who we can ask of is only ourselves. **Don't** expect mother or boyfriend or friends to understand why we're depressed and to what extent we're depressed. Don't even expect tolerance, support, and share of burden. **There's no** one who's responsible for carrying someone. **There's no** one who will prop up someone. **There's no** one who can save someone. I just have to*

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*remember to move on…I obviously own **so** much, but instead I actually feel they're pressure. How despicable is my character and how much I deserve to be punished by God? But I'm really **so tired**…I hate myself for only hiding, acting weak, always crying, always crying, always crying. I hate the non-stop negative thinking in mind. I hate myself for **why** what I typed are all cowardly words that are not strong, not hardworking enough. I hate myself for **always** feeling **sad**, **always sad**, **always sad**, although I obviously have **no** right or reasons to be unhappy. The counselor said I should let myself rest, but how can I rest when I'm already **so** useless…Why should I get well? Getting well is **such** a tiresome thing. Can I really get well? I'm **so tired**. Although I said not to let them down, in fact the most disappointing person is **always** me myself. They love me very much, so I don't want to let them down even more. But **why** am I like this? …Those look and words of disappointment and misunderstanding, I don't want to hear a word anymore. It **hurts so much**, **hurts so much**. I'd rather continue to be **so tired**, **so tired**. I will still live on, still. Typing is just for a momentary relief to remind myself how stupid all these are. Do not **give up**, though very tired. It's not yet the time for **giving up**, although I want to **give up** so badly. Sorry, I am so selfish and only think about myself."*

In their online communication with other depressed persons, patients expound upon their viewpoints of social relations, in particular the skepticism towards the necessity of a human companion. This subject of depression discourse is presented by Topic #7b. In addition to discourse themes #1b and #2b in peer-to-peer depression

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discussion introduced previously, Cluster #7b also draws readers' attention to the depressed individuals' sense of detachment from others with whom he/she interacts--their friends to be more specifically. Table 24 comprises key terms which frequently appear in the patients' opinions about a dispensable social relationship.

Topic #7b INTERPERSONAL RELATIONSHIPS
覺得 feel
一直 always
真的 really
朋友 friend
很多 many
沒有 there_is_not
所以 therefore
時候 moment
這樣 this_kind_of
只是 just

Table 24. Keyword cluster on the topic "interpersonal relationships" in online peer-to-peer depression communication.

By writing on the Prozac Board forum, the patients disclose interpersonal relation problems they encounter in everyday life. The discussion on daily interaction with friends and acquaintances can be further expanded to somewhat philosophical debate over whether human beings need each other's company. For some in the depressed group, the value of individuality and independence of the self can outrank the importance of friendship and interpersonal harmony, as illustrated in example (61)

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below.

(61) 這是我**一直**以來不太好的點（之一）：完全無法忍受旁人缺乏自覺、自欺欺人。**只是**這個**朋友**，對方在過去這五六年來**一直**都在身邊，是一個很值得信賴的人，也幫過我**很多**。我不能像以前那樣，**覺得**反正不往來就好，但這摩擦**一直**隱隱存在……然後我會**一直**在想，自己是不是**真的**需要做這些事？如果一個人想要**朋友**，那麼的確或許需要修改**很多**原本的個性，做**很多**不舒服的努力，去獲得想要的東西。但是自己，**真的**需要人類這個東西嗎？**沒有**別人的**時候**，我的生活過得比較好，也比較開心。總是有人會說**這樣**很孤單吧，我好難體會那是怎樣的感覺……就算**真的**感覺到孤單，可能也只有短短一秒鐘 。

*"This has **always** been (one of) my disadvantages: I can't stand others' lack of self-awareness and self-deception at all. It's **just** that this friend, this person has **always** been around for the past five or six years. He is a trustworthy person and has helped me **a lot**. I can't **think** in the way it used to be, that it was fine not to have contact. But this conflict has **always** existed indistinctly…And then I'll be thinking **continuously** that whether I myself **really** need to do such things. If someone wants a **friend**, then perhaps indeed he needs to change **much** of his original personality and make **much** unpleasant effort in order to attain things that he desires. But do I myself **really** need this thing called 'human'? **When there are no** others, my life goes better and happier. There's always someone*

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*saying that it would be lonely **this way**. It's so hard for me to understand what kind of feeling that is…Even if I **really** feel lonely, it might be only for a second."*

Some patients express their feeling of loneliness and self-depreciation because they do not consider themselves popular among friends or having friends who really show understanding and support for them. Even so, in many other cases, it is observed that the depressed narrators not only elaborate on their opinions about friendship or daily association with people around them, but they also offer advice to other readers who are depression sufferers as well in terms of why they should possess a positive thinking about not making friends. For instance, the creator of post (62) provides personal experiences in developing as well as disintegrating past friendships. Furthermore, the author explicitly concludes with an advice to others that it is fine not to have friends. The idea of social alienation is hence brought forth and approved.

(62) 我已經聽過三個人告訴我「我**沒有朋友**」……我在想：可是我明明就很常看到有**朋友**約你出去玩啊？……**所以**後來我才**覺得**，原來他們所謂的**朋友**，是那種知己，而不是那種出門玩樂的**朋友**……其實我很早很早以前，很常被約出去玩，但是當時年輕，還沒有想的那麼遠，就**覺得**約出去玩的都可以當**朋友**。**一直**到越來越少人找我，我也因為**很多**事很忙懶得接電話，

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然後就越來越**沒有朋友**找我。前幾年，我實在是不太習慣自己一個人，常常**覺得很多**人會在臉書上 PO 與**朋友**的出遊照，**覺得**羨慕。可是現在，卻**覺得沒有朋友**，其實也不是多嚴重的事.....我現在**覺得**，**沒有朋友**也不是多不好的事，可以學習自己一個人獨立……**所以沒有朋友**這件事，**真的**不是那麼嚴重。**只是**偶爾自己在生活的**時候**，如果生病了，就會**覺得**自己一個人生活，好可憐，連生病都沒人幫我。其實這種想法應該是要找個伴，而不是找**朋友**……**所以**交**朋友**這件事，應該要隨緣就好，不用太刻意，**很多**事都是緣份而已。

*"I have already heard three people telling me 'I **don't have friends**.'…I was thinking: but I apparently often saw many **friends** asking you out? …**So** I **felt** afterwards that in fact their so-called **friends** are those **confidants**, rather than those **friends** for hanging out with… Honestly I was asked to go out often a long long time ago. But I was young at that time and didn't think too far. I just **felt** those I hung out with could all be **friends**. **Until** fewer and fewer people came for me and I was too lazy to answer the phone due to so **many** things to be busy with, then I had fewer and **fewer friends** coming to me. A few years ago, I was really not that used to being all by myself, often **feeling** that **many** people uploaded sightseeing photos with **friends** on Facebook and **feeling** envious of this. But now, I don't feel it's such a big deal **not having friends**…Now I don't **feel not having friends** is such a bad thing, and I can learn to be independent by myself…**So not having friends** is **really** not that serious. It's **just** that occasionally **when** I live alone, if I get sick, I'll **feel** that I'm so poor living alone*

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and there's no one to help me even when I', sick. Actually this kind of thinking is supposed to mean 'to find a partner' but not 'to find a ***friend'****…****So*** *this thing, making* ***friends****, should depend on destiny. No need to pursue it deliberately.* ***Many*** *things are just destined."*

As stated earlier, one of the main reasons why the depressed use the peer-to-peer bulletin board system as a tool for communication is to gain support from people who also experience the same mental illness and thus can relate to their physical and psychological agony. Furthermore, not only the repliers to a post but also the original post contributors show gestures of mutual support and encouragement. The following two themes in peer communication, Topics #8b and #9b, both involve the patients' cheering acts for one another on different occasions. Table 25 below contains keywords frequently found in the patients' articles when they aim to cheer others who are also battling against depression.

Topic #8b ENCOURAGEMENT
加油 try_one's_best
大家 everybody
努力 endeavor
希望 hope
一起 together
謝謝 thank

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快樂	happy
開心	cheerful
慢慢	slowly
成功	succeed

Table 25. Keyword cluster on the topic “encouragement” in online peer-to-peer depression communication.

Understanding the obstacles other patients are confronting, to express empathy and encouragement, the depressed establish a companionship via interactive threads and call for joint endeavors between themselves and other readers to fight against the afflictive disorder. Post (63) illustrates a case wherein the patient attempts to summon up the peers’ courage and expresses the hope for mutual support.

(63) **希望**這裡每個版友，都不要放棄**希望**，都要繼續**加油**！我們**一起努力**，不要拋下任何人，也不要以後讓別人傷心喔～**希望大家**一天比一天進步，過得愈來愈好。

*“**Hope** every pal on this forum does not give up **hope**, and all should continue to **try our best**! Let’s **work on it together**. Don’t abandon anyone, and don’t hurt others’ feelings from now on~ **Hope everybody** makes progress day by day, living better and better.”*

Similar to Cluster #8b, Cluster #9b also conveys the idea of peer support but

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pinpoints the special attention and care given to the patients' birthday. Top terms in table 26 are all associated with concern for the depressed persons' birthday.

Topic #9b BIRTHDAY
生日快樂 happy_birthday
生日 birthday
happy
開心 happy
快樂 happy
希望 hope
今天 today
birthday
大家 everybody
謝謝 thank

Table 26. Keyword cluster on the topic "birthday" in online peer-to-peer depression communication.

In a large number of postings found in peer-to-peer communication among depression patients, it is observed that many people refer to their birthday, usually the day on which the post is created, and explicitly request birthday wishes from other users on the forum. The patients' behavior of bring up their birthday as the topic of discourse can be regarded as an act to seek support and concern, whereas by delivering blessings for the special occasion, repliers to the birthday threads in fact work in collaboration to fulfill the authors' need for attention and care. Such a beneficial interaction is demonstrated in context (64), where "post" stands for the initial thread and the number marked with the

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"reply" indicates different identities of the repliers.

(64)

Post: 我**生日**到了，**今天**是我的**生日**，我 24 歲了，快祝我**生日快樂**，明天要去看 SHE，現在好 high！

Reply 1: **happy birthday** to 胖胖

Reply 2: **生日快樂**～恭喜又胖一圈（咦）

Reply 3: **生日快樂**

Post: *"It's my **birthday**. **Today** is my **birthday**. I become 24 years old. Hurry! Wish me a **happy birthday**. Tomorrow I'm going to see SHE. Now I'm so excited!"*

Reply 1: *"**happy birthday** to Fatty"*

Reply 2: *"**Happy birthday**~ Congratulations on getting more love handles (huh)"*

Reply 3: *"**happy birthday**"*

As has been illustrated above, the depressed seem to be sensitive to whether others are concerned about their birthday. Absence of attention to the day which is particularly meaningful to the patients may be interpreted as equivalent to indifference and rejection to show love and support. As a consequence, the lack of birthday wishes coming from

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others can give rise to the patients' oppressive thinking. Example (65) depicts the situation when a patient did not receive the attention which she thinks she deserves on her birthday.

(65)

Post 1: 二月十號是我的**生日**，我很**開心**有你們的陪伴，可是我更生氣的是為何你就不記得……我告訴你**今天**是我的**生日**，你的反應呢？你讓我很失望，然後又說自己很忙沒時間去買禮物，在我眼中那根本就是藉口！**今天**我回家哥哥已經在家裡等我了，還對我說妞**生日快樂**～還送上**生日**禮物。為何同樣都是我的家人，你卻不記得，還若無其事一副沒甚麼大不了……我只想聽到一句**生日快樂**……為何我們長得越大你對我的關心就越少……我一定會報復你的！一定會！

Reply 1: **生日快樂**！往好的方面多想想，壞的事情就忘記它吧

Reply 2: **生日快樂**

Reply 3: **生日快樂**～

Post 2: **謝謝**你們**大家**

Post 1: "*February 10th is my **birthday**. I'm very **glad** to have your company, but what makes me angrier is that why you just don't remember…I told you **today** is my **birthday**. What was your reaction? You disappointed me*

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*very much. Then you said you were too busy to buy a gift. In my eyes that's literally an excuse! Today when I got home, older brother was already waiting for me at home. He said 'Niu, **happy birthday**~' to me and even gave me a **birthday** present. Since you both are my family, why don't you remember? You even acted like it wasn't a big deal…I just wanted to hear a '**happy birthday**'…Why do you pay less and less attention to me as we grow older…I'll definitely take revenge on you! I definitely will!"*

Reply 1: *"**Happy birthday**! Try to look more on the bright side. Forget about the bad things."*

Reply 2: *"**happy birthday**"*

Reply 3: *"**happy birthday**~"*

Post 2: *"**thank** you, **everyone**"*

Previously in Topic #12a of the patient-to-provider communication, it has been shown that non-drug treatments appear to be the center of discussion in inquiries about major depressive disorder. Although narrower in scope, the same discourse subject occurs again in the two peer communication themes to be introduced next, Topics #10b and #11b, each with a distinct focus. The former topic concentrates on the exercise aspect of the non-clinical treatments as a solution to depression, as exemplified by keywords in Table 27.

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Topic #10b EXERCISE
運動 exercise
跑步 jogging
走路 walk
出門 go_out
情緒 emotion
改善 improve
心情 mood
憂鬱 depressed
健康 health
放鬆 relax

Table 27. Keyword cluster on the topic “exercise” in online peer-to-peer depression communication.

Many people with depression talk about the benefits of doing exercise and share with others in terms of how exercise functions to alleviate their depressive symptoms. For instance, in example (66), the patients report that their insomnia condition is improved and mood lightened up.

(66)

Post: 今天早起，自己**走路**到了校車站等車，可能是因為這個關係，算是有**運動**到吧，一整天的精神也特別好，早上買了咖啡，午休難得睡得超好，終於沒哭也沒作惡夢了……果然**運動**是會變快樂的吧？

Reply 1: 下午我也去外面快走流一身汗，**運動**完真的感覺有差

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Reply 2: 推**運動**

Reply 3: 推**運動**

Reply 4: **運動**完**心情**都會變得很好

Post: *"Today I got up early and **walked** to the school bus station by myself to wait for the bus. Probably because of this, I sort of **exercised**. My spirit was particularly good the whole day. Bought coffee in the morning. Had a rare super sound sleep at noon, finally without crying or nightmares…Isn't it true that **exercising** makes people happy?"*

Reply 1: *"I also went outside for speed walking in the afternoon and I sweated a lot. It really feels different after **exercising**."*

Reply 2: *"thumb up for **exercise**"*

Reply 3: *"thumb up for **exercise**"*

Reply 4: *"**Mood** always becomes very good after **exercising**"*

Besides the exercise theme, the other topic in peer discussion related to non-drug treatment is psychological counselling. Lexical items clustering to form this topic are listed in Table 28 as follows.

Topic #11b CONSULTATION
諮商 counselling
老師 teacher
心理 psychological

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中心	center
學校	school
經驗	experience
專業	professional
問題	problem
建議	suggest
幫助	help

Table 28. Keyword cluster on the topic “consultation” in online peer-to-peer depression communication.

It is not a rare occasion that the younger generation first turn to the counselling center at school to seek assistance when they fall prey to pessimistic state of mind. As for depressed persons who have left school environments, often accompanying their conventional psychiatric and medical treatments is a series of consultation meetings with a counselling psychologist. On the peer support forum, many patients share their own counselling history with the peers and make comments on the effectiveness of such non-medical treatments, as demonstrated by text (67).

(67) 曾經在**學校**做過半年的**心理諮商**，那段**經驗**其實常常都是在繞圈子，不過至少有個人可以說說話，個人認為多少有點**幫助**。

*“I used to have **psychological counselling** at **school** for half a year. That **experience** in fact was usually circular. But at least I could have someone to talk to. I personally think it was more or less **helpful**.”*

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Some may provide their opinions on the role that psychological counselling plays in the treatment of unipolar depressive disorder, whereas others may visit the forum with a view to requesting suggestions on whether consultation sessions are necessary and helpful. Example (68) contains threads of inquiry, personal experiences, and information about the counselling resource.

(68)

Post: 大家覺得**心理諮商**真的能有**幫助**嗎？可能因為我之前去的**經驗**，覺得諮商師會點出**問題**點，但是在處理上好像沒有幫到。

Reply 1: 我的狀況跟你有點類似，目前正在接受**諮商建議**。

Reply 2: 美國的話或許加入健保的話也會比較便宜（沒住過美國不清楚）。倒不是說生活協助，除了**幫助**你認知**問題**外，能夠協助內在改變。

Reply 3: **學校**就有**諮商中心**可以 counsel，可是很不幸我剛好畢業了。

Post: *"Does everyone think **psychological counselling** can really be **helpful**? Perhaps because of my past **experience** of the visit, I feel that although the counsellor would point out the key **problem**, it didn't seem to help as to how to deal with it."*

Reply 1: *"My condition is kind of similar to yours. I'm currently taking **counselling suggestions**."*

Reply 2: *"In terms of the U.S., maybe it's cheaper to join the national health insurance program. (I've never lived in the U.S. so I don't know well.) It's not that it provides life assistance, but besides **helping** you to be*

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*aware of the **problems**, it assists you to change internally."*

Reply 3: *"There's **counselling center** at **school** to counsel with, but unfortunately I happen to graduate."*

When an individual with depression reveals his mental conditions online, other patients more experienced in tackling this obstinate disorder may have a better understanding of how emergent the situation is that the person is facing. While the similarly depressed peers fairly often verbally encourage the narrator and frequently offer psychological support, in urgent circumstances where the patient displays prominent signs of clinical depression, the peers will strongly suggest, if not urge, that the person seek professional help in time. Reply (69) provides an instance of such a case. In this respect, the current topic cluster bears a resemblance to theme #11a "encouragement for treatment" in that the patients encourage each other to turn to trained healthcare givers, as do the professional medical personnel.

(69) 請你跟**學校**心諮**中心**說，你有迫切的需要馬上進行**諮商**！這樣他們會盡快幫妳安排妳的諮商師，另外會有妳的個管**老師**。諮商師約每週**諮商**一次、個管**老師**會打電話關心妳……基本上我覺得版上的人都很好，應該能理解妳的感受，但是很多人都自顧不暇了，想幫妳卻也是心有餘而力不足，

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所以我比較**建議**妳到心諮**中心**尋求**幫助**……加油!

*"Please tell the psychological counselling **center** at **school** that you have n urgent need to undergo **consultation** immediately! This way they will help you to arrange your counsellor as soon as possible. Also, there will be your case management **teacher**. The counsellor provides **consultations** about once a week, and the case management **teacher** will call you for concern…Basically I think the people on this forum are nice and should be able to understand your feelings. However, many people are already overwhelmed by their own problems. In their heart they want to help you but in reality they lack the strength to do so. Therefore, I'm inclined to **suggest** that you seek **help** at the psychological counselling **center**…Best of luck!"*

One of the functions the peer support forum serves is to provide a platform for interchange of information concerning the depressive disorder. In Topics #12b to #14b, various respects of information or experience sharing about clinical treatments are discovered in the communications among peer patients. The first cluster of such information exchange centers upon the request for and provision of recommendations with regard to good medical services. The second involves personal experiences of clinical visits, whereas the last deals with the influence or side-effects of anti-depression medications.

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Below is Table 29, which is composed of key terms highly relevant to the recommendations of healthcare professionals among the depressed group.

Topic #12b RECOMMENDATION OF HEALTHCARE PROVIDERS
醫生 doctor
醫師 doctor
推薦 recommend
診所 clinic
精神科 psychiatry
看診 doctor's_visit
醫院 hospital
看醫生 go_to_the_doctor
回診 revisit_to_the_doctor
比較 compare

Table 29. Keyword cluster on the topic "recommendation of healthcare providers" in online peer-to-peer depression communication.

Although some patients enquire about recommended health practitioners because they have never been to one, others with the experience of a doctor's visit also seek opinions from the peers as to whether they have a better option than the healthcare services they receive at the moment. Data (70) and (71) respectively provide an example of the patients' requiring and offering comments on the professional treatment for depression.

(70) 亞東**醫院**有其他**推薦**的**醫師**嗎？之前一直都是在亞東看，但我都是掛

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家醫科+心理諮詢師，已經將近一年沒繼續看了，但又不行了，所以最近想**回診**了。我在想是不是應該轉看**精神科比較**專業啊……希望有在亞東就診過的板友能**推薦**一下。

*"Are there other **recommended doctors** at Far Eastern **Hospital**? I used to always visit Far Eastern, but I always registered for the division of family medicine plus counselling psychologist. I haven't continued to visit them for almost a year. But it's not fine again, so I wanted to **revisit the doctor** lately. I'm wondering whether it's **comparatively** more professional that I transfer to the **division of psychiatry**…Hope forum pals who have visited Far Eastern can offer **recommendation**."*

(71)

Reply 1: 養全的蔡**醫師**還不錯

Reply 2: 我推高安李**醫師**

Reply 3: 樓上**推薦**這位，朋友說不太好耶

Reply 4: **推薦**你在建國和民族路橋下，有一間劉**精神科**可以去。那數十年的**診所**了，**醫生**很有經驗，你帶朋友去看看

Reply 5: 推陽明路拉法**診所**

Reply 1: "***Doctor** Tsai at Yang Quan is pretty good"*

Reply 2: "*I recommend **Doctor** Lee at Kao An"*

Reply 3: "*the person **recommended** by upstairs is not so good, according to my*

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friend"

Reply 4: *"I **recommend** that you go to the Liu's **Psychiatry** under the bridge at Jian-guo and Min-zu Road Intersection. That **clinic** was established many decades ago. The **doctor** is very experienced. You can take your friends to check it out."*

Reply 5: *"thumb up for La Fa **Clinic** at Yang-ming Road"*

Emerging from another context of information sharing on the peer-to-peer depression forum, the next topic cluster, Topic #13b, comprises lexical items recurring in the patients' narration of their past experience of clinical visits. Key terms in this cluster are shown in Table 30.

Topic #13b CLINICAL ENCOUNTER
醫生 doctor
回診 revisit_to_the_doctor
看醫生 go_to_the_doctor
所以 therefore
看診 doctor's_visit
因為 because
病人 patients
醫院 hospital
診所 clinical
初診 first_visit (to a doctor)

Table 30. Keyword cluster on the topic "clinical encounter" in online peer-to-peer depression communication.

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As the depressed authors make an evaluation of the healthcare services (“醫生” *doctor*, “醫院” *hospital*, “診所” *clinical*) they have received, oftentimes they provide personal medical or treatment history (“初診” *first_visit*, “回診” *revisit_to_the_doctor*, “看診” *doctor's_visit*) as well. The patients' descriptions of personal clinical encounters can be of great value for both the depressed and medical personnel. On the one hand, the reviews contributed by the patient authors usually carry the function of recommendation, or alternatively, a warning, for other people in the depressed community. On the other, for healthcare providers, the patients' opinions on the services reflect what they consider crucial to a successful and satisfactory doctor's visit. Post (72) exemplifies a case of different clinical encounters, in which the patient specifically points out what features of the care givers evoke his unpleasant feelings.

(72) **因為**這兩次就診經驗實在太差，這篇文章飽含憤怒，會有不少情緒字眼，請見諒。原本都是在佑泉**看診**，不過這兩個禮拜太累，佑泉離我家太遠，又不想在大**醫院**花很多錢**看醫生**，**所以**找到離家裡比較近的楊聰財**診所**。第一個禮拜看的時候就很不開心了。我的確是單純的想要拿藥沒錯，但是**醫生**一臉就是很高傲、看不起人的樣子……很氣憤的騎車回來，想著這幾天有力氣，去找葉拔取暖。雖然他最近**看診**我不是很滿意，但是至少他有同理心，至少他聽得懂人話，至少他關心他的**病人**。超後悔離開診間

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沒有跟他說你真是我看過最爛的精神科**醫生**！！！！！

*"**Because** these two clinical visit experiences are really too bad, this article is full of anger and there will be quite a few emotional words. Please pardon me. Originally I always had **doctor's visits** at You Quan. But these two weeks I was too tired. You Quan is too far away from my house. Also I didn't want to spend a lot of money to go to the **doctor** at a large **hospital**, **so** I found Yang Tsung-Tsai's **Clinic** which is closer to home. I was already very unhappy by the first week of visit. Indeed, it's true that I simply wanted to get medicines. But the **doctor** obviously gave an arrogant, despising look on his face…Very angrily I rode the scooter back, thinking that I have energy these days to find Papa Yeh for warmth. Although I wasn't so satisfied with his recent **appointments**, at least he has empathy. At least he understands people's words. At least he cares about his **patients**. I extremely regret leaving the clinic without telling him 'You're really the worst psychiatric **doctor** I've ever visited!!!!!'."*

Many come to online peer-to-peer forum to share their experience in taking depression medications, as can be observed form the keywords constituting theme #14b. In comparison to Topic #7a "side-effects of depression medication" in the patient-doctor communication, the subject under current peer discussion of anti-depression medicines covers not only the side-effect aspect of antidepressant drugs but also the patients' physical and psychological reactions to the prescription medications. Below is Table 31, which contains top terms closely related to the theme of patients' reaction to depression

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medicines.

Topic #14b	REACTION TO DEPRESSION MEDICATIONS
醫生	doctor
藥物	medicine
診所	clinic
副作用	side-effect
服用	take (medicine)
吃藥	take_medicine
安眠藥	hypnotics
失眠	insomnia
問題	problem
狀況	condition

Table 31. Keyword cluster on the topic “reaction to depression medications” in online peer-to-peer depression communication.

Parallel to Cluster #7a in patient-physician counselling, in Topic #14b, it is also observed that patients make reference to the specific brand names of prescription drugs they have taken. Moreover, sharing their treatment experiences with the peers, the depressed may also reveal their medical history to others, as illustrated by example (73) below, in which a patient describes the medication side-effects she suffers.

(73) 差不多一個半月前，我開始**服用**抗憂鬱**藥物**「速悅」，每個人**服用**後**副作用**都不一樣，我是很嚴重的食慾不佳，甚至吃完就嚴重嘔吐。問我怎

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不跟**醫生**說，然後換藥？當然有，以前也吃過抗憂鬱**藥物**，但是因為本身有癲癇，很多精神**藥物**不是重複就是相剋，所以最後最佳考量，我的精神科+神經科**醫生**還是決定讓我吃速悅……某天回家報告近況順便傾訴了一下身體的不舒服、**吃藥**的不開心，但是我的家人們紛紛笑笑的回答我：「很好啊！！你瘦了耶」我承認自己是個胖女孩，自小**服用藥物**的關係，身材因為**副作用**不斷胖胖瘦瘦習慣了，所以一直不介意身材胖瘦**問題**，但是當那天跟家人聊天完後，我總覺得不開心。

*"About a month and a half ago, I started to **take** the anti-depression **medicine** 'Efexor'. **Side-effects** vary for everyone after the medicines are **taken**. Mine is very severe poor appetite. I even vomited seriously right after I finished eating. You ask me why I didn't tell the **doctor** and then change medications? Of course I did. I had taken anti-depression **medications** before. But because I myself have epilepsy, many psychiatric **medications** either overlap or conflict. So after the ultimate optical evaluation, my **psychiatry** plus neurology **doctors** still decided to have me take Efexor…One day I went home to report recent situations and incidentally disclosed the discomfort of the body and the unhappiness about **taking medicines**. But my family answered me with a smile one after one, saying 'Great!! You are thinner.' I admit that I'm a chubby girl. Because of having been **taking medicines** since little, I'm used to my body's constantly becoming fatter or thinner due to the **side-effects**. So I always don't mind the **problem**s with the body's getting fatter or thinner. But since that day after I chatted with the family, I often feel unhappy."*

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As stated earlier, patients' report of their own medical history almost always accompanies their experience sharing of the use of anti-depression medicines. Another example to demonstrate such concurrence is text (74). In this post, the depressed person recites her past and present experiences in taking antidepressants. Furthermore, she also recounts how she reacts mentally to prescription medications, even though her physical response to the medicines seems benign.

(74) 之前去看身心科**診所**，一開始的時候**醫生**判定我是輕度憂鬱，他開了抗憂鬱的藥給我，我只吃了一次就沒再吃了……我的睡眠愈來愈艱困。後來我逼自己去五年前的實習學校聽老師上課，但是當天我回到家就完全**失眠**了……於是那天下午又去看了同一家我較信任的身心科。一進去看到**醫生**我就對他說對不起我沒有聽你的話**吃藥**，他笑笑說沒關係，又問了我**狀況**……**醫生**這次開的藥我乖乖吃了，有比較好一點，他開**安眠藥**，這幾天陸續吃，從原本只能睡三小時，進步到四小時，再到五小時，我能繼續進步到不需要再靠吃**安眠藥**入睡嗎我也不知道，我好害怕吃**安眠藥**，因為每次都像是意識被強制偷走了一樣失去知覺。

*"I went to a somatic **clinic** before. At first the **doctor** judged that I was slightly depressed. He prescribed anti-depression medications for me. I only took it once and never had it again…My sleep became more and more difficult. Afterwards I forced myself to attend the lectures given by teachers at the school where I had*

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*my internship five years ago, but the same day I had total **insomnia** after I returned home…Therefore in the afternoon on that day, I went to the same somatic clinic that I trusted more. Once I got in, seeing the **doctor**, I told him that I was sorry about not listening to his words about **taking medications**. He smiled and said it was alright. Then he asked about my **condition**…I took the medications the **doctor** prescribed this time properly. I felt a bit better. He prescribed hypnotics. I continually took it these few days. I progressed from the original three hours of sleep to four hours and then to five hours. I don't know if I can continue to make progress until I don't have to fall asleep by taking **hypnotics** anymore. I'm so afraid of taking **hypnotics**, because I lost consciousness every time as if my consciousness had been forcefully stolen."*

Last but not least is the final cluster, Topic #15b, in the depression discussion among peer patients. This topic touches upon the biological factors accounting for the presence of the patients' depressive disorders. Table 32 presents keywords frequently occurring in the theme of genetic link to depression.

Topic #15b HERITABILITY OF DEPRESSION
憂鬱症 depression
憂鬱 depressed
基因 gene
精神 psychiatric
疾病 illness

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躁鬱症 bipolar disorder
情緒 emotion
症狀 symptom
影響 influence
可能 possible

Table 32. Keyword cluster on the topic “heritability of depression” in online peer-to-peer depression communication.

Recognizing the fact that there are members in the family suffering from major depressive disorder, some patients express concerns to their peers about the possibility of deriving the same illness from genetic inheritance, as exemplified by instance (75) below.

(75) 從看到報紙描述**憂鬱症**的**症狀**讓我嚇了一跳，因為我很多項都符合，但我從來不覺得自己是**憂鬱症**，直到想起我外公跟大舅都是因為**憂鬱症**走掉的（遺傳**基因**），掙扎了很久才鼓起勇氣去看醫生。醫生一開始開了一個禮拜的百解憂給我……原來醫生壓根覺得我是正常人，後來他說我是**情緒**障礙。

*“I was surprised by the description of **depression symptoms** I read on the newspaper, because my condition matched many of the items. But I had never thought of myself as **clinically depressed** until it came to my mind that my grandfather and oldest uncle both passed away due to **depression** (hereditary **genes**). I struggled a long time before taking courage to go to the doctor. The*

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doctor prescribed one week's Prozac for me at first…It turned out that the doctor thought I was completely a normal person. Later he said I was having ***emotional*** *disturbance."*

While many convey worries about the potential that depression can be passed on to them, it is also discovered in several postings that the depressed harbor further apprehension over the impact of their illness on the future generation due to heredity. As a result, the heritability of major depressive disorder not only procures the patients' dismal state of mind but also even dissuades some of the depressed persons from forming a new family. Post (76) provides an example as such.

(76) 萬一我的人格特質留給後代怎辦？**精神疾病**跟遺傳也有關係的，萬一我沒有好好教，讓這個特質顯現出來以後我跟小孩一起發作怎辦……孩子的性格還是會受外在環境**影響**，潛在的**憂鬱可能**會被誘發……小時候很想長大結婚生小孩，現在想不要害小孩比較好。劣等的**基因**留在我身上就好了，不要去殘害無辜的孩子。

"What should I do if my personality traits are passed onto my offspring? ***Psychiatric illnesses*** *are connected to heredity. What should I do if I let this trait emerge and my kid and I together get attacked by the illness before I could educate my kid well…Children's characters may still be* ***influenced*** *by external*

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*environment. Potential **depression** can **possibly** be induced…When I was little I wanted to grow up, get married and have kids. Now I think it's better not to victimize the kids. It's better to keep inferior **genes** in my body. Don't do harm to the innocent kids."*

Emerging from the patients' communication with the peers, the majority of discussion themes bear a strong association to the patients' negative emotions. These topics include Topics #1 to #5, #6, #7, #9, and #15, ranging from the psychological pain inflicted by others, an unfavorable life at school, workplace or home, to even the heritability of unipolar depressive disorder. A large part of the aforementioned themes, Topics #1 to #6 for instance, can be regarded as the sources of pressure that accelerate the development of the patients' depressed conditions. Discussion over alternatives to medical treatment is also found in peer-to-peer discourses about the mental disorder, as has been explicated in themes #10 "exercise" and #11 "consultation". Furthermore, the act of information and experience sharing amongst peer patients appears in a number of topic clusters, such as the recommendation of healthcare providers, experiences of clinical visits, and the individuals' reaction to antidepressant medications.

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4.4. Comparison of depressed persons' language in the two consultation contexts

Besides divergence in the topics of patients' respective communication with the professionals and the peers, subtler dissimilarities in the patients' linguistic expression about experiences of depression are discovered and reviewed as follows.

4.4.1. Depressed mood

According to *DSM-V*, constant or continuous depressed mood can be revealed by the patient himself or reported by others. The way how people feel and express depressed mood may vary greatly from one person to another. Such a mood involves feeling of loneliness, frustration, sadness, sense of loss, despair, and so forth. The depiction of patients' pessimistic state of mind appears in both the professional counselling and peer communication.

In the patient-physician context, mood is often described to be "低落" *low*, "憂鬱" *depressed*, "不好" *bad*, and so forth. In other words, it is observed that most of the patients are inclined to signify their negative emotions with the use of certain negative delineating expressions when they consult medical professionals about their illness. Moreover, reasons that cause the patients' downhearted mood often remain unknown or unstated in the inquiries.

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On the other hand, in peer-to-peer discussion, it has not been discovered that such a tendency exists. That is, the depressed on the peer support forum have not demonstrated specific or fixed wording for the description of negative emotions. Furthermore, depressed mood and symptoms are perceived to pervade the entire postings even without the narrators' exact mentioning of the word "mood", "emotion" or "symptom" at all, although the gloomy mental condition and other signs of clinical depression are clearly known to the readers. Moreover, unlike the unspecified reasons in patient-doctor consultations, triggering incidents or the combination of distressful events are usually narrated by the depressed authors, whether the narrators are aware that those are the causes of their low mood.

4.4.2. Self-other alienation

Patients with depressive disorder are found to struggle in the dilemma between the desire to be empathized by other non-patients and the disbelief in others' competence to understand their sufferings. Such a sense of severance between the depressed and the mentally healthy is brought forth in both professional and peer contexts.

In their consultation with healthcare providers, it is observed that the patients reserve the right to refuse to communicate with the non-patients. Yet, in the meantime, they may still opt to restore a relationship with the non-depressed after the self-isolation

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from others.

However, in contrary to the free will displayed in patient-physician counselling, the patients' passiveness and fragility seem to prevail when it comes to the description of the self-other detachment. In other words, rather than capable of taking the initiative to cut the connection with others, these patients appear to be feeble in distressing interactions with people showing no empathy and cannot help but to be influenced by others' misunderstanding.

4.4.3. Sources of pressure

Both patient-to-provider and peer-to-peer discourses contain the topic of pressure that worsens the patients' depressed conditions. While domestic problems are mentioned in the professional consultations, there are more themes pointing to the source of stress that are referred to in peer discussion of depression. Besides family issues, other causes of pressure recurring in patients' communication with the peers include psychological pain inflicted by others, unmanageable life, peer interaction and academic stress at school, and worries over career development.

4.4.4. Use of function words

The vast majority of keywords in queries to the healthcare professionals are

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content words. In contrast, many of the top terms in the cluster deriving from peer-to-peer discourse are not content words directly relevant to depression per se but function words that are often used in colloquial context.

4.4.5. Use of interrogation

In topic clusters originating from peer-to-peer depression forum, it is prevalently observed in the patients' narrations that they tend to pose unanswerable puzzle in the form of interrogations in the style of monologue. Such unsolvable, monologic questions suggest that the depressed may consider peer communication as an outlet for their suppressed emotions. Thus, it may be inferred that what people with depression truly convey through their unanswerable riddles is their desire for audience and accompany, instead of a search for solution to emotional and interpersonal entanglements.

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5. Conclusion

5.1. Recapitulation

The aim of the present research is to investigate what discourse themes are cardinal to persons with major depressive disorder in their online communication to the healthcare professionals and to peer patients, respectively. A sum of 785 inquiry entries contributed by depression patients is collected from three online professional counselling websites, including *Taiwan e Doctor*, *KingNet National Network Hospital*, and *Psychpark*. As regards the peer-to-peer corpus, it is composed of up to 4,359 postings written by the depressed. After the process of word segmentation, topic modelling technique is applied to both depression corpora. Regarding the outcomes of topic modelling, fifteen discussion themes are obtained from each of the two corpus, and each topic cluster comprises ten top words representative of that specific topic.

5.2. Summary of research findings

The results of topic modelling indicate that there are four general themes found in the counselling between the depressed patients and healthcare professionals. These include topics relevant to (1) a variety of depression symptoms; (2) anti-depression

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medicines and comedication; (3) medical and non-drug treatments; and (4) family issues.

As for the outcome in peer-to-peer depression discussion, the findings show that the fifteen topic clusters involve the following five broad subjects. These shared themes are (1) causes of melancholy state of mind; (2) sources of pressure; (3) alternatives to drug treatment; (4) expression of mutual support and encouragement; and (5) sharing of healthcare and medical information.

In addition to discourse topics, language of the depressed also varies when targeting different groups of addressees in the discussion of the mental disorder. The present study has pinpointed several dissimilarities as such, including the patients' description of depressed mood, divergent perspectives in self-other alienation, diversity of pressure, and the use of functions words and monologic interrogation characteristic of peer-to-peer communication.

5.3. Limitation of the study

Computational topic modelling is ideal for processing big data in that it automatically extracts crucial themes from large text collections, which is fairly

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time-saving compared to manual annotation and observation. Nevertheless, topic models require segmented text strings as input, and in Chinese natural language processing, this can be an inherent problem for such an approach. More specifically, topic models rely on the pre-segmented texts to generate keyword clusters. However, as a consequence of the a priori segmentation, possibility of meaningful lexical chunks as thematic keywords is excluded, simply because the chunks exceed the word boundaries computed by a certain algorithm and are thus broken down into small units, becoming incomplete in meaning.

Further, it should be noted that changes in corpus size or content can alter the result of topic modelling. Although based on empirical evidence, the current number of topic clusters is adjusted to be fifteen and the number of key terms in each cluster, ten, such an optical number set to best fit the data can vary to different extents, depending on the size of the corpus or the orientation of the fora. Hence, the clustering results presented in the current study helps to uncover the trend of the patients' concerns in depression-related issues but nevertheless does not ensure that all future interests of the depressed will neatly conform to the present findings.

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5.4. Future directions

The current research has presented preliminary findings on certain linguistic features that distinguish peer-to-peer communication from patient-to-provider consultation, such as the patients' frequent use of colloquial function words, monologue, and unanswerable puzzle. Such conclusions can be more firmly substantiated through further control experiments. Discourse data regarding professional and peer communication in another domain other than depression should be included in future work to ensure that differences discovered in the current study are indeed depression-specific rather than universal to all professional and peer discussion contexts.

As has been stated earlier, the objective of the present study is to probe into the discourse themes crucial to the depressed community when they communicate with experts and peers respectively via the Internet. The study has examined and compared several conversation topics that patients are inclined to address in professional counselling and peer communication. However, due to the scope of research, the current research has not yet touched upon the specific language employed by people with clinical depression to depict each of the nine cardinal signs specified in *DSM-V* manual.

Furthermore, in order to engender practical development in clinical diagnosis of

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the disorder, it is essential for future studies to include, possibly multimodal, real-world patient-doctor and peer-to-peer communication data, which can help to better reflect the actual scenarios in which depression discourses take place. By observing how the nine critical depressive symptoms delineated in *DSM-V* are lexicalized in the language of the depressed and how communication over depression really proceeds in clinical encounters, it is hope that the depressed community's physical symptoms and mental discomfort can be further understood and assisted with in both in online counselling and real-time clinical visits.

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