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Genève, le 4 août 2017

Thèse en médecine humaine

“Evaluation des contenus de forums d’entraide en ligne d’usagers de cannabis”

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Thèse préparée sous la direction du Professeur Yasser Khazaal

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Introduction

Le cannabis est la substance illicite la plus largement consommée sur le plan mondial[1, 2], et son usage est associé à des problématiques somatiques et des comorbidités psychiatriques, particulièrement chez les adolescents et jeunes adultes[3,4,5,6,7,8]. Dans un contexte marqué par un renouvellement des questions relatives aux perspectives de santé publique et de sécurité ainsi que l'expansion de son usage à des fins médicales, de récentes discussions et initiatives menées aux États-Unis, certains pays européens (par exemple la Suisse), et aux seins d'enceintes des Nations Unies, ont promu la mise en œuvre des politiques de régulation/décriminalisation/dépénalisation du cannabis face au constat d'échec des politiques uniquement axée sur la criminalisation de cette substance [9,10].

Le nombre d'usager de cannabis qui recherche de l'aide reste relativement faible[11] comparé à la prévalence de la consommation cannabinique, possiblement à cause de

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[1] Degenhardt L, Chiu WT, Sampson N, Kessler RC, Anthony JC, Angermeyer M, et al. Toward a global view of alcohol, tobacco, cannabis, and cocaine use: findings from the WHO World Mental Health Surveys. PLoS medicine. 2008;5:e141.

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phénomènes de stigmatisation, d'un accès encore limité aux traitements[12,13,14], ou de la perception que ces derniers ne sont pas efficaces[15]. Parallèlement, internet est devenu un vecteur important de dissémination d'informations relatives à la santé, et un outil de soutien pour des personnes souffrant de troubles mentaux et/ou de problématiques addictives[16,17,18,19]. Presque deux tiers des personnes ayant un accès internet ont déjà recherché des informations à caractère médical[20], ce qui fait du web une des principales sources d'informations médicales.

Un certain nombre d'études ont ainsi évalué des interventions web structurées adaptée de traitements psychothérapeutiques validés[21,22,23]. En parallèle, des forums d'entraide en ligne ont essaimé couvrant une large palette de maladies somatiques et psychiatriques. Les caractéristiques de ces groupes incluent un environnement en ligne, des buts communs, l'accès à de larges groupes de soutiens indépendants de leur

---

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localisation géographique et/ou de questions horaires[24]. Ils partagent aussi des notions clé du modèle de rétablissement/recovery, par exemple l'autonomisation des usagers, le soutien par les pairs-aidants, et l'expérience partagée des usagers comme dynamique centrale du processus de rétablissement[25,26].

Les avantages théoriques et pratiques des forums d'entraide en ligne psychologiques/psychiatriques ont été examinés assez largement[27]. Les possibles bénéfices sont une amélioration en terme symptomatologique et de qualité de vie, une récupération de la capacité de prise de décision[28], une réduction des sentiments d'aliénation et d'isolement, des niveaux de stress moindres[29], et le développement d'un réseau social quelque fois inexistant[30]. Les possibles effets négatifs de ces forums est que la qualité des informations médicales est essentiellement mauvaise[31]. Par ailleurs, l'information n'est pas contrôlée, avec le risque de diffusion d'informations potentiellement nocives et stressantes avec une fiabilité inexistante[32].

L'analyse des aspects de contenus de ces forums a été moins intensivement évaluée, par exemple quel type de mécanisme d'aide les forums offrent, les contenus

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effectivement échangé, ainsi que les possibles effets sur les usagers[33]. Quelques travaux ont étudié des forums sur la schizophrénie[34,35], le trouble bipolaire[36], la dépression[37], les comportements suicidaires[38], les troubles du comportement alimentaire[39], et les troubles obsessionnels-compulsifs[40]. Dans son étude pionnière, Finn (1999)[41] a ouvert la voie pour la nomenclature actuelle utilisée dans les travaux de recherches ultérieurs avec le même focus sur les contenus de forums en ligne, en examinant un forum pour personnes avec handicap sur une période de trois mois. La constations principale fut que le groupe était clairement plus qu'une simple plateforme d'échange d'informations factuelles, avec plus de la moitié des messages avec un focus émotionnel. Perron (2002)[42] a été le premier à examiner spécifiquement un forum dédié aux proches de personnes ayant une problématique psychiatrique, avec une analyse de contenu extensive sur une période de 18 mois. Le résultat essentiel est que les participants rédigeaient leurs messages afin d'obtenir une forme de catharsis par le biais du partage quasi-immédiat d'un événement difficile. Haker et collègue (2005)[43] ont étudié 11 forums pour personnes souffrant de schizophrénie en affinant les classifications de Finn et Perron. Contrairement aux deux précédentes études, leur

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[43] Haker H, Lauber C, Rossler W. Internet forums: a self-help approach for individuals with schizophrenia? Acta psychiatrica Scandinavica. 2005;112:474-7.

résultat principal est que l'échange d'information était le principal moteur pour les participants de ces forums. Finalement, Bauer et collègue (2013)[44] ont examiné deux forums en langues allemandes pour personnes souffrant de troubles bipolaires. Le constat-clé a à nouveau été le haut niveau de partage de contenu émotionnel et la recherche de soutien émotionnel, avec une emphase particulière sur des questions relatives aux réseaux sociaux. Ces quatre études exploratoires ont limité l'analyse de contenu des messages sans références aux caractéristiques des usagers et sans corrélations entre les différents focus de contenu. Par ailleurs, les travaux où plusieurs forums ont été examinés n'ont pas analysé les différences entre eux. A notre connaissance, une unique étude a examiné des forums sur les questions d'addiction (en l'occurrence l'alcool)[45], et aucune ne s'est penchée sur les forums de cannabis.

L'objectif de notre recherche était de cibler et d'investiguer les forums d'entraide en ligne d'usagers de cannabis. Pour ce faire, notre étude a adopté une perspective de « parcours d'usager », dans le sens que nous avons tenté de répliquer dans nos critères d'inclusion le parcours d'un usager de cannabis sur le web, associant quelques mots-clés (« cannabis, « forum » et « help ») non-professionnels faisant référence à cette problématique dans le moteur de recherche google.com/ncr (anglophone)[46] en mars 2015, et se dirigeant ensuite prestement sur les 20 premières occurrences (2 premières pages) à la recherche des forums libres d'accès. Les recherches de Finn, Perron, Bauer et Haker précédemment citées ont dirigé le choix de nos mots-clés, et il est mentionné dans la littérature scientifique que la plupart des personnes recherchant des informations sur des moteur de recherche web se dirigent rarement au-delà des 20 premières occurrences[47]. Les thèmes de recherches adressés par cette étude sont multiples sans que nous n'ayons formulé d'hypothèse a priori : traitements

[44] Bauer R, Bauer M, Spiessl H, Kagerbauer T. Cyber-support: an analysis of online self-help forums (online self-help forums in bipolar disorder). Nordic journal of psychiatry. 2013;67:185-90.
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contemporains dans le champ des addictions, médecine « e-health », diminution du « mental-health treatment gap », promotion de soins collaboratifs et d'une médecine centrée sur la personne.

Article de publication originale

ONLINE SELF-HELP FORUMS ON CANNABIS: A CONTENT ASSESSMENT

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ABSTRACT

Objective: To investigate online self-help forums related to cannabis users who were searching for help on the Internet.

Methods: We analyzed the content of 717 postings by 328 users in three online forums in terms of fields of interest and self-help mechanisms. Only English-language forums that were free of charge and without registration were investigated.

Results: The main self-help mechanisms were disclosure and symptoms, with relatively few posts concerning legal issues and social perceptions. The forums differed significantly in all fields of interest and self-help mechanisms except for social network and financial and vocational issues. Highly involved users more commonly posted on topics related to diagnosis, etiology/research, and provision of information and less commonly on those related to gratitude. Correlation analysis showed a moderate negative correlation between emotional support and illness-related aspects and between emotional support and exchange of information.

Conclusions: Cannabis forums share similarities with other mental health forums. Posts differ according to user involvement and the specific orientation of the forum.

Practice implications: The Internet offers a viable source of self-help and social support for cannabis users, which has potential clinical implications in terms of referring clients to specific forums.

KEYWORDS

cannabis use; addiction; Internet; online forum; self-help

HIGHLIGHTS

• Cannabis online forums share similarities with other mental health-related forums.

• Post contents differ according to the therapeutic orientation of the forum and user involvement.

• Posts present a dissociation between emotional and information-related support.

• Different forums attract individuals in different stages of readiness to change.

1. INTRODUCTION

Cannabis is the most widely used addictive substance worldwide after tobacco and alcohol [1 , 2]. Its use is associated with addiction, harms, and possible psychiatric disorders in some users, including young adults and adolescents [3-6, 7 , 8]. In the context of security issues and public health perspectives related to cannabis use, and the expanded use of medical marijuana, renewed discussions are being held in the United States, in some European countries (e.g. Switzerland), and in UN assemblies regarding early implementation of regulation policies, rather than criminalization [9, 10].

The number of users who seek help for cannabis addiction remains low [11], possibly because of perceived stigma and limited access to treatment [12-14], or to expectations that care will be ineffective [15]. At the same time, the Internet is becoming an important vector of health-related information and support for people with addiction and mental disorders [16 , 17 , 18 , 19]. Almost two of every three Internet users have already looked for online health information, making the Internet one of the main sources of such information [20]. A number of studies have assessed structured Internet-based interventions adapted from psychotherapeutic treatments [21 , 22 , 23].

In parallel, web-based self-help forums are being developed for a wide range of psychiatric and somatic illnesses. Characteristics of these groups include an online environment, shared goals, media richness, access to a support network, and possible worldwide support independent of geographic location [24]. They also share core features of the recovery model, e.g. empowerment, peer support, and experiential knowledge [25, 26]. The theoretical and practical advantages of online self-help groups have been examined [27]. Possible benefits of these groups include positive changes in symptoms, enhanced recovery and adaptive responses to the diagnosis, improved quality of life, improved decision making [28], overcoming alienation and isolation, reduced stress levels, development of social networks [29], and increased self-determination [30]. A potential negative effect of online resources such as forums and blogs is that the quality of information for laypersons on health, mental health, and addiction websites is mostly poor [31]. Furthermore, information can be uncontrolled and sometimes poorly moderated, leading to the risk of spreading potentially harmful and stressful information that has a low level of reliability [32].

Although the number of online forums for patients with psychiatric illnesses continues to increase, few studies have evaluated the type of help offered, its possible effect on users, or the content of information shared among users [33]. Several studies were, however, conducted on online support for schizophrenia [34, 35], bipolar disorder [33], depression [36, 37], suicidality [38], eating disorders [29]), and obsessive-compulsive disorder [39]. In his seminal paper, Finn (1999) paved the way for the current nomenclature, which was used in later studies with the same focus, by examining a single online disability group during a three-month period. The main finding was that the group was more than a forum for exchange of technical information, as about half of the messages fell into emotional categories.

Perron (2002) [40]specifically examined a mental health-related online forum, performing extensive discourse/content analysis during an 18-month period. The main result was that the online group participants appeared to write in order to achieve a sense of catharsis, as they were able to immediately share experiences following a difficult event. Haker et al. (2005)[35] investigated 11 online forums for people with schizophrenia. Their central finding, in contrast to that of previous studies, was that exchange of information was the main interest for those participating in the forums. Bauer et al. (2013) [33] examined two German-speaking online forums related to bipolar disorder by using the same assessment method as Haker et al [35]. The main finding was related to the important level of sharing of emotional content and finding emotional support, with particular emphasis on social network issues.

These first studies did not describe posts according to user characteristics. They furthermore did not assess possible links between the different characteristics of the posts (e.g. between emotional support and exchange of information). In addition, studies that examined more than one forum did not consider differences between the assessed forums.

To our knowledge, only one study has examined online support in the area of substance use disorder, namely for alcohol use disorder [41]. The study assessed a web-based intervention that included access to a moderated peer-to-peer discussion forum. The focus of the study was, however, not related to the content of the forum. To date, and to the best of our knowledge, no study has considered cannabis and online

self-help. The aim of the present study was therefore to target and investigate self-help online forums related to cannabis users who are searching for help on the Internet. The study furthermore aimed to assess differences between forums, possible links between user characteristics and posts, and associations between different kinds of posts.

2. METHODS

The study adopted a “user journey” perspective in that we tried in our inclusion criteria to replicate the journey of a cannabis user who is seeking help on the web, i.e. a layperson cannabis user’s help-seeking web search. This search usually includes typing keywords into a general search engine such as the most popular one, Google [42], and then promptly checking the top-listed links, as people rarely search beyond the first 20 retrieved links [43].

2.1. Sample

We searched the keywords “cannabis” and “forum” and “help” on the search engine www.google.com/ncr in March 2015. These three terms seemed to be the lay keywords with a particularly wide span and high frequency of use. The previous literature also reported the use of three keywords: the diagnostic/common term “bipolar” or “schizophrenia” associated with “forum” and “self-help” [33, 35]. A search conducted with a different keyword (“support group” instead of “help”) resulted in no change in the results.

The inclusion criteria were as follows: English-speaking online forums centered on cannabis use, addiction, and withdrawal issues; free-of-charge access; and access without registration beyond an anonymous username and password for posting purposes (e.g. not requiring input of personal information such as name, address, and email. As most people rarely search beyond the first 20 retrieved links [43], we examined only the first 20 websites that were returned from the query. After applying the inclusion criteria and checking for recurrence of websites, we retrieved three cannabis self-help forums (see Figure 1).

We excluded forums dedicated to cannabis cultivation and growth, medical marijuana, and how to find the substance in a specific area of a given city. Up to the first three pages of each post were included, and all posts on each topic were included.

2.2. Assessment

Information about forums (language, size, foundation date, last update) and users (sex, age, role, date of access to forum, total number of posts) was gathered when freely available. The posts were coded according to the categorization developed by Bauer et al. [33] and Haker et al. [35] and on the basis of the categorization systems and item definitions of Finn [44] and Perron [40]. Coding rules were as follows: 1 if the item's theme as described in Table 1 was present and 0 if it was absent. Each posting could be assigned to more than one category. Accordingly, posts were analyzed for 22 items (Table 1) with respect to fields of interest (illness-related aspects, social aspects, financial and legal issues) and self-help mechanisms (exchange of information, emotional support, group support). The coder was CG, a psychiatrist MD who was trained on the coding aspects for several weeks through intensive exchanges with YK. Whenever there was a doubt about coding, it was resolved by consensus in meetings with YK. Assessment instruments had good interrater reliability (Cohen's kappa greater than 0.80 calculated on a sample of 40 randomly selected posts), as previously shown in other studies assessing interrater reliability [33, 40, 44].

2.3. Ethical considerations

This work followed the ethical guidelines used by Finn et al. [44]. No informed consent was obtained, as the postings were publicly available without restriction. The authors did not participate in the groups so that group processes would not be influenced. Posts were analyzed anonymously.

2.4. Statistical analysis

Data were analyzed by using SPSS (version 22.0, IBM, Chicago, USA). Univariate statistics such as proportions, median, mean, and standard deviations were used to describe general characteristics of both postings and users. The postings were analyzed

according to fields of interest and self-help mechanisms. Fields of interest included illness-related aspects, social aspects, and financial and legal issues. Self-help mechanisms included exchange of information, emotional support, and group support.

Comparisons between the forums were performed by using chi-square tests. Chi-square tests are omnibus tests to check whether differences exist between any of the cell frequencies. Their interpretation is not straightforward, particularly when associated with more than one degree of freedom. We relied on the size of the adjusted standardized residuals (± 2) to determine the source of the significance [45]. A residual analysis identifies specific cells that make the greatest contribution to the chi-square test result.

The number of postings related to the different topics was compared by gender (male vs. female) with t-tests. The items under study were also compared by type of user: highly involved users vs. moderately involved users excluding professionals. Highly involved users comprised those whose total number of postings on the sites analyzed was in the upper quartile, q3. With q3 being defined as the 75th quantile or the median of the n largest numbers of the data set, this means that about 75% of the numbers in the data set lie below q3 and about 25% lie above q3. T-tests, assuming unequal variances, were also used for between-group statistical significance.

The number of messages with a focus on symptoms, emotions, diagnoses, prognosis, etiology and research, medication, treatment, and professionals were summed to show the extent to which users were concerned with illness-related aspects. The same was done for social aspects (social perception, social network), financial and legal issues (legal issues, financial issues, resources, vocational issues, housing), exchange of information (disclosure, provision of information, request for information, forum instructions, computer issues), emotional support (empathy and support, friendship, creative expression, gratitude), and group cohesion (online group cohesion, negative statement). Illness-related aspects, social aspects, and financial and legal issues are understood to be categories of fields of interest, whereas exchange of information, emotional support, and group cohesion are self-help mechanisms. These subcategories were correlated in an exploratory way by using Spearman (rank) tests.

2.5. Missing data

Almost all research studies are prone to missing data and this study is no exception. In analyzing databases, ignoring the missing responses automatically excludes some respondents, who become underrepresented. Here, the main reason for missing data is that for two of the three forums, participants were given the choice to disclose their age and sex or not, whereas for the third forum, this information was mandatory. Knowing this, the assumption of *missingness completely at random*, although intuitively appealing, is challenging to prove because it is difficult to determine whether missing data are related to the outcome of interest. Post hoc sensitivity analyses were undertaken to assess the robustness of the findings related to age and sex. Hence, we report the results of complete case (CC) analysis, i.e. ignoring the missing data, and that of the expectation-maximization (EM) imputation technique, i.e. accounting for the missing data. The EM algorithm is a statistical simulation technique that estimates the averages, the matrix of variance and covariance, and the matrix of correlations by using an iterative procedure [46]. After convergence, the missing data are replaced by their obtained estimation and the completed data can then be analyzed by conventional methods.

For all analyses, a significance level of $p \leq 0.05$ was used.

3. RESULTS

In total, 717 posts by 328 participants from the following three forums were included: cannabis addiction (CA, drugs-forum.com/forum/forumdisplay.php?f=417), cannabis rehabilitation (CR, www.cannabisrehab.org), and Marijuana Anonymous (MA, www.marijuana-anonymous.org) (Figure 1).

3.1. Postings and users

A total of 717 posts related to 328 unique participants (323 users and 5 moderators) were analyzed. These postings were made between November 2014 and March 2015 in the three different forums: CA, accounting for 41.4%; CR, accounting for 32.2%, and MA, accounting for 26.4% of the posts. Most postings (97%) were written by persons seeking information, the other 3% being authored by moderators. On average,

users and moderators wrote 2.4 and 4.4 posts, respectively, during the evaluation period.

The information given by the users regarding age and gender was sparse. On the CA forum, all posts include information on gender because it is mandatory; on the two other forums, gender information is optional and is therefore commonly lacking. For instance, data on age were provided by only 114 users (35.3%) and a little more than half of them – 171 (53%) – identified their gender. The results of the CC analysis showed that they had a median age of 26 years (range: 18–78) and were mainly men (76%), whereas the EM imputation technique yielded a median age of 33 years (range: 18-78) and 71.2% male respondents. CC analysis yielded a mean value of 31 (SD=11.8) and EM analysis a mean value of 34 (SD=10). Compared by t-test, these two means showed a statistically significant difference ($p<0.0005$).

3.2. Comparison by type of forum

As shown in Table 2 (data without the posts of the moderators), the forums differed significantly in all fields of interest and self-help mechanisms except for social network, financial issues, and vocational issues. In CA and CR, the first two most discussed topics were disclosure and symptoms, whereas in MA, disclosure and treatment held the most prominent positions. Statistically, symptoms were significantly more discussed in CA than in CR and MA, and symptoms were more discussed in CR than in MA forums. Disclosure was more discussed in CR than in CA and MA, and it was more discussed in CA than in MA. Treatment was significantly more present in MA than in CA and CR, and it was more present in CA than in CR.

3.3. Comparison by sex

The data aggregated over the participants were analyzed by sex. By CC analysis, t-tests showed that men and women did not differ significantly in their number of postings on the various subjects, except for etiology/research and diagnosis. The mean number of posts related to these two aspects was significantly greater in men than in women (p=0.02 and p=0.046, respectively). Regarding EM analysis, the following results were obtained: the mean number of posts related to diagnosis and to negative

statements was greater in men than in women ($p=0.02$ and $p=0.02$, respectively), whereas the mean number of posts was higher in women than in men regarding professionals and regarding empathy and support ($p=0.006$ and $p=0.009$, respectively).

3.4. Comparison by type of user: highly involved users vs. moderately involved users

We evaluated q3 as being at 140 posts and the highly involved users were defined as those for whom 140 posts or more were recorded. None of the moderators fell into the assessed categories. The aggregated data in Table 3 shows significant differences for diagnosis, etiology/research, provision of information, and gratitude. In the highly involved users, there were more postings related to the first three subjects and fewer related to gratitude than in the other groups (p=0.01, 0.001, 0.02, and 0.004, respectively).

3.5. Subitem correlations

Correlations between the various assessed variables are presented in Table 4 (trivial correlations, i.e. less than 0.10, are not reported). The reported correlations were weak to moderate. One of the stronger positive associations was between social aspects and financial and legal issues (Spearman $\rho=0.22$), whereas one of the stronger negative associations was between emotional support and illness-related aspects and between emotional support and exchange of information (Spearman $\rho=-0.29$).

4. DISCUSSION AND CONCLUSION

4.1. Discussion

We investigated the first three English online self-help forums, from our March 2015 search, that were centered on cannabis and were open, i.e. could be accessed free of charge and without registration. We analyzed the content with respect to fields of interest and self-help mechanisms from a “user journey” perspective. Further comparisons included assessment of posts according to the different cannabis forums included and user characteristics. Correlations between the assessed items were further performed.

4.1.1. Comparison between mental health self-help forums and cannabis forums

We found that the main self-help mechanism on open self-help forums centered on cannabis was disclosure, in accordance with other studies related to bipolar disorder [33] and schizophrenia [34]. Disclosure is considered an important self-help mechanism across mental and physical health forums. For instance, sharing secrets with others has been found to increase insight and a sense of personal mastery [47].

Symptoms were also found to be one of the main fields of interest. Similar findings were observed in schizophrenia online forums but not bipolar disorder-, depression-, or suicidal-centered forums, where posts related to social network were more common [34]. As suggested elsewhere [12, 48], this is possibly because of, on the one hand, insufficient dissemination by caregivers or media about cannabis addiction-related symptoms and lack of treatment access for cannabis users. On the other hand, social network posts may have been less frequent because natural access to some social networks among cannabis users [49].

We additionally found relatively few legal issues and social perception posts compared with those in other mental illness self-help forums [33, 35]. This could be related to better dissemination of such aspects and the relatively widespread and growing acceptance of cannabis consumption legally and socially, especially in the United States, where legislative and political processes are ongoing in these directions [10].

4.1.2. Comparison between cannabis self-help forums

One of the main findings of our study is that the forums significantly differed in all fields of interest and self-help mechanisms except for social network, financial issues, and vocational issues. For instance, in CA and CR, the first two most discussed topics were disclosure and symptoms, whereas in MA, disclosure and treatment held the most prominent positions. Furthermore, in the MA forum, symptom-coded postings constituted roughly half the number of such postings in the other two forums (22.2% for MA vs. 54.5% for CA and 43.7% for CR).

This could be explained first by the fact that MA follows the Minnesota 12-Step Model, which is discussed widely on the MA forum and is coded by us as treatment. The Minnesota Model, originally proposed by Alcoholics Anonymous as a method of recovery from alcoholism, is a set of guiding principles (abstinence, humility, amendment, non-professional peer help) outlining a course of action for recovery from addiction. In a slightly modified form (e.g. professional counseling help), it is nowadays widely used to treat addictive behaviors [50].

The much higher ratio between providing information and requesting information on the MA forum compared with the ratios on the other two forums indicates that this knowledge about the 12-step modalities is given spontaneously and not requested by users.

Second, the lower prevalence of disclosure, symptoms, and requests for information on the MA forum could indicate that users of this forum are more on the preparation/action continuum (ready to change behavior or in the change process) under the Transtheoretical Model of Prochaska and Diclemente [51] than are users on the two other forums, who may be more in the contemplation/determination stages, if we consider that the three aforementioned items are central questions for people in the contemplation stage. The present study cannot, however, assess this hypothesis in the absence of a direct evaluation of the users themselves.

Finally, we also found more gratitude and more online group cohesion (positive and negative) on the MA forum, which fits well with a therapeutic model based on group and peer support.

Along with the discrepancies between MA and the two other forums, there are significant disparities among all three forums. This implies that navigating on one forum does not provide the same mixture of self-help mechanisms and themes (fields of interest) as on another forum, which could have interesting implications for health practitioners in terms of possible referrals to specific forums.

4.1.3. Comparison between users

We furthermore compared postings according to user characteristics. In accordance with other studies, most postings were written by persons seeking

information [33, 34]. The median age was relatively young, in accordance with the prevalence of Internet use among young people and with their readiness to use Internet-related supports for cannabis and mental health purposes [13, 16, 17]. Moderators were about 10 years older.

When we compared postings according to the importance of user involvement, we found that highly involved users more commonly posted on topics related to diagnosis, etiology/research, and provision of information and less commonly on gratitude. Highly involved users seemed to behave more actively on the forums in a way that aimed to help others. Previous studies did not examine these aspects.

In accordance with the higher prevalence of cannabis use and addiction among male users [52, 53], we found a higher proportion of male users in the present study. Men and women did not differ, however, in their number of postings according to CC analysis, except that etiology/research and diagnosis topics were more commonly posted by men. There is some evidence that the method of help-seeking behavior differs between the sexes, men being less likely to report psychosocial problems and distress [54].

Additional gender differences were found using EM analysis. In particular, negative statements were greater in men than in women. It seems, however, that women were more involved than men in professional-related posts (a way to support others in finding professional help), as well as in empathy and support. Some evidence suggested gender differences in qualitative and quantitative aspects of empathy processes and behaviors [55]. Furthermore, the method of help-seeking behavior differed between the sexes, men being less likely to report psychosocial problems and distress [54].

4.1.4. Correlation between items

Interestingly, we found a moderate negative correlation between emotional support and illness-related aspects and between emotional support and exchange of information, which showed a partial dissociation between emotional support and information-related support. Such dissociation was not described in previous studies because inter-item correlation was not assessed in the previous published works. A

possible hypothesis is that users segregate between those interested in a biomedical/etiological model and those interested in a more recovery oriented one. Gender and other psychopathological characteristics are possibly involved in such segregation. An additional explanation would be that users are sequentially interested in information-related content and emotional support or vice versa, but are less interested in both aspects at the same time.

4.1.5. Limitations

The study has several limitations. The first is the relatively few forums and posts analyzed, which limits the generalizability of our findings. The second is that the dynamic nature of online health information and the unstable political situation on cannabis decriminalization could be a limitation in replications of our findings. The third is the lack of prospective design, the absence of a direct assessment of forum user characteristics, and the lack of assessment of the impact of the posts on outcomes such as cannabis use, which precludes testing for the efficacy of cannabis online open forums in terms of mental health indicators and recovery processes. Thus, there is a need to explore the specific therapeutic outcomes associated with participation in further studies.

Furthermore, gender and age were not available for each post and the reasons that the MA and CR forum users did or did not provide gender information were not investigated. With the EM technique, it was possible to impute the missing data, although it must be borne in mind that this technique fails to account for the uncertainty induced by sampling variability. Another limitation is the lack of ability to stratify by level of cannabis use. In addition, with the use of different keywords, we may have found slightly different forums. When terms such as “marijuana” or “pot” were used instead of cannabis, slight to moderate changes appeared in the forums selected (one to two of the three forums selected with our initial terms were also in the pick), with the “reddit.com” social news aggregation site and discussion websites at the top of the list.

Inclusion of the MA forum that follows the Minnesota 12-Step Model possibly amplified some disparities between forums. Nevertheless, the results show the importance of the differences between the MA and the other two forums and even, to some extent, between the other two forums themselves.

4.2. Conclusion

The web has opened up new opportunities for mental health patients to access diverse information and support and to share their personal experiences with fellow users. In the present study, we found that cannabis self-help-related forums share similarities with other mental health-related forums. Posts in the forums differ according to user involvement but also according to the specific orientation of the forum.

4.3. Practice Implications

Our study reveals that communication within the online support group was generally positive and constructive, as suggested by the presence of few posts with negative statements, offering group members the opportunity to use a variety of self-help mechanisms to cope with cannabis use/addiction. For health practitioners, the study highlights the multiplicity of themes and self-help mechanisms present on cannabis forums and their variability across forums. This knowledge could be helpful to enhance collaborative discussion between caregivers and patients on the use of such forums**.** This suggests that the Internet can offer a viable and alternative source of self-help and social support for cannabis users who are searching for help. Furthermore, the idea that different forums attract individuals in different stages of readiness to change is interesting and has potential clinical/self-help implications in terms of referring clients to specific forums. Further studies are warranted to assess the impact of forums as possible self-help and mutual support tools for people with addictive disorders in the community.

CONTRIBUTORS

Christian Greiner and Yasser Khazaal conceived the study. Christian Greiner collected the data and wrote an initial draft of the manuscript. Anne Chatton conducted the statistical analyses. Yasser Khazaal reviewed versions of the manuscript. All authors have approved the final article.

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APPENDICES

Table 1. Classification and description of items

ITEM	DESCRIPTION
FIELDS OF INTEREST	
1. Illness-related aspects	
Symptoms	Related to cognitive, behavioral, or physical characteristics [35] of cannabis intoxication or withdrawal
Emotions	Related to common basic emotions – not symptoms – that were experienced and accompanied the burden of cannabis addiction/intoxication/withdrawal [33]
Diagnosis	Related to discussion about definition, meaning, and process of cannabis addiction
Prognosis	Related to cannabis addiction and withdrawal in the long term
Etiology/Research	Related to scientific literature and explanations about cannabis addiction /intoxication /withdrawal
Medication	Related to psychopharmacotherapy [35]
Treatment	Related to all forms of possible cannabis addiction/withdrawal treatment, professional or not (pharmacotherapeutic, psychotherapeutic, groups, self-help)
Professionals	Related to cannabis addiction/withdrawal treatment delivered by professional actors (physician, psychologist, counselor)
2. Social aspects	
Social perception	Related to perception and judgment of proximal or distal social network on cannabis addiction/intoxication/withdrawal
Social network	Related to families and friends and how user copes with cannabis addiction in the context of these social relations [35]
Legal issues	Related to legal aspects of cannabis use
3. Financial and legal issues	
Financial issues	Related to financial aspects of cannabis use
Vocational issues	Related to job issues and volitional issues in relation to cannabis use
Housing	Related to housing issues in relation to cannabis use

SELF-HELP MECHANISMS	
1. Exchange of information	
Disclosure	Updates of the lives of the patient, describing events as they relate to his/her experience [40]
Provide information	Stating or providing factual and useful information related to disease, treatment, process, or policy [44], both solicited and unsolicited [40]
Request information	Asking if others know information or facts about a topic related to disease, treatment, process, or policy [44]
Gratitude	Saying thank you or indicating an appreciation for responses [40]
2. Emotional support	
Empathy and support	Responding with helpful or comforting words, talking with someone about the emotional component of a problem or circumstance, or showing understanding of another situation [44]
Friendship	Expression of friendship, discussion of making friends in the group [44]
3. Group support	
Online group cohesion	Related to content about interactions between forum users and their relation to self-help/help mechanisms
Negative statement	Related to negative statement about the online help forum only

Table 2. Item classification by type of forum

Item	Cannabis addiction (*n*=297)	Cannabis rehabilitation (*n*=231)	Marijuana Anonymous (*n*=189)	*p*-Value
Fields of interest				
Illness-related aspects, % present				
Symptoms	55.6	45.0	22.2	<0.0005
Emotions	9.2	20.7	12.2	0.001
Diagnosis	18.0	10.4	9.0	0.006
Prognosis	0	0.5	0	-[a]
Etiology/Research	18.7	0	1.1	<0.0005
Medication	11.3	5.4	1.6	<0.0005
Treatment	15.1	7.7	28.6	<0.0005
Professionals	5.6	7.2	1.6	0.03
Social aspects, % present				
Social perception	1.4	1.8	0.5	-[a]
Social network	9.2	13.1	6.9	(0.1)
Legal issues	3.2	0.9	0	-[a]
Financial and legal issues, % present				
Financial issues	7.4	3.6	3.2	(0.06)
Vocational issues	8.5	11.3	7.9	(0.4)
Housing	0.7	0.5	1.1	-[a]
Self-help mechanisms				
Exchange of information, % present				
Disclosure	65.5	77.0	49.2	<0.0005
Provision of information	28.2	15.3	21.2	0.002
Request for information	12.3	10.8	4.8	0.02
Emotional support, % present				
Empathy and support	10.6	31.1	26.5	<0.0005
Friendship	0.4	0	1.1	-[a]
Gratitude	5.6	17.1	24.3	<0.0005
Group support, % present				
Online group cohesion	0.4	4.1	4.8	<0.0005
Negative statement	0.7	1.8	5.3	0.003

[a]Sample size is too small.

Table 3. Item classification by type of user: highly involved users[a] vs. moderately involved users

Item	Highly involved users (*n*=61)	Moderately involved users (*n*=183)	*p*-Value
Fields of interest			
Illness-related aspects, *M* (SD)			
Symptoms	1.4 (2.1)	0.9 (1.3)	0.1
Emotions	0.2 (0.5)	0.4 (1.0)	0.1
Diagnosis	0.5 (0.8)	0.2 (0.6)	0.01
Etiology/Research	0.5 (0.9)	0.1 (0.4)	0.001
Medication	0.3 (1.0)	0.1 (0.5)	0.1
Treatment	0.5 (1.2)	0.4 (0.9)	0.7
Professionals	0.2 (0.4)	0.1 (0.3)	0.2
Social aspects, *M* (SD)			
Social perception	0.1 (0.4)	0.02 (0.1)	0.4
Social network	0.3 (0.9)	0.2 (0.9)	0.9
Legal issues	0.1 (0.3)	0.03 (0.2)	0.4
Financial and legal issues, *M* (SD)			
Financial issues	0.1 (0.3)	0.1 (0.4)	0.7
Vocational issues	0.2 (0.8)	0.2 (0.5)	0.9
Housing	0.02 (0.1)	0.02 (0.1)	0.8
Self-help mechanisms			
Exchange of information, *M* (SD)			
Disclosure	1.6 (2.6)	1.5 (2.1)	0.9
Provision of information	1.0 (1.7)	0.5 (1.0)	0.02
Request for information	0.3 (0.6)	0.2 (0.5)	0.6
Emotional support, *M* (SD)			
Empathy and support	0.5 (1.3)	0.6 (1.4)	0.9
Friendship	0	0.02 (0.1)	0.08
Gratitude	0.1 (0.5)	0.4 (0.8)	0.004
Group support, *M* (SD)			
Online group cohesion	0.03 (0.2)	0.09 (0.4)	0.1
Negative statement	0.02 (0.1)	0.07 (0.3)	0.08

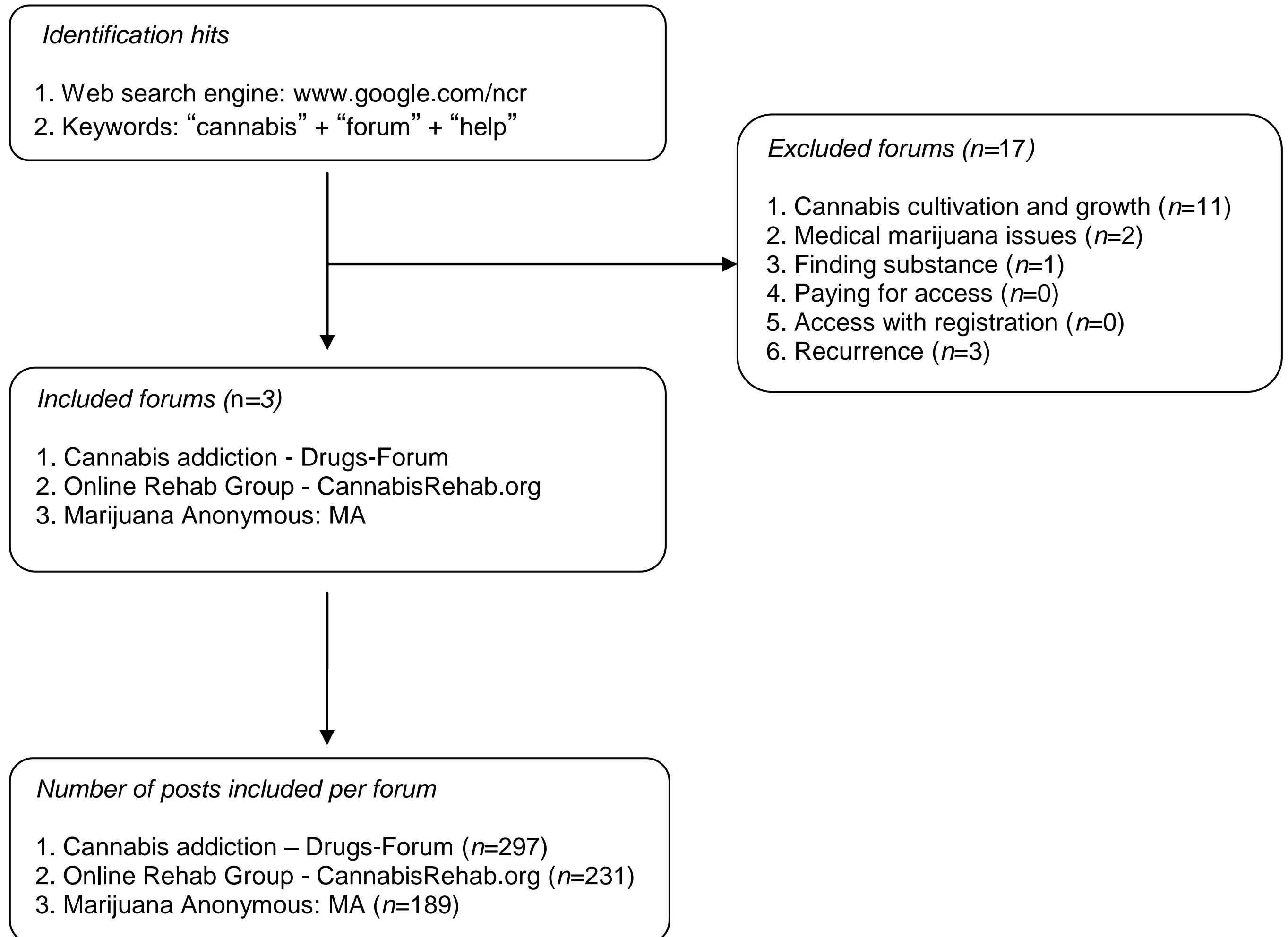
[a]Users whose total posts are in the upper quartile.

Table 4. Subitem correlations

	IRA	SA	FLI	EOI	ES	GC
IRA						
SA						
FLI	0.14	0.22				
EOI	0.12					
ES	-0.29		-0.11	-0.27		
GC	-0.12			-0.11		

IRA: Illness-related aspects; SA: social aspects; FLI: financial and legal issues; EOI: exchange of information; ES: emotional support; GC: group cohesion.

Figure 1. Flow Diagram



Discussion

Nous avons investigué en terme de contenu, selon une typologie adaptée de Finn, Perron, Haker et Bauer comportant deux dimensions - mécanismes d'entraide et champs d'intérêt - les forums d'entraide en ligne d'usagers de cannabis qui se présentaient dans les 20 premières occurrences (2 premières pages) du site de référencement google.com/ncr en usant des mots-clés ordinaires « cannabis, « forum » et « help ».

Nous avons dans un premier temps comparé nos résultats à ceux issus des recherches précédemment citées consacrées à l'utilisation des forums d'entraide en ligne des usagers souffrant d'affections psychiatriques. Nous avons découvert qu'en ce qui concerne les mécanismes d'entraide, les usagers de cannabis utilisaient principalement le « dévoilement/divulgation», en accord avec les précédentes recherches sur les forums d'usagers de troubles bipolaires[48] ou de schizophrénie[49]. Le dévoilement est considéré comme un important mécanisme d'entraide sur les forums, et partager des secrets avec des pairs peut augmenter l'insight et le sens de maîtrise personnel[50]. Au regard de la dimension des champs d'intérêts, ce sont les « symptômes » qui sont le plus discutés par les usagers de cannabis, ce qui a pu être retrouvé dans l'analyse les forums d'usagers souffrant de schizophrénie mais pas sur les forums dédiés aux troubles bipolaires, unipolaires ou de comportement suicidaires, où ce sont les messages relatifs aux « réseaux sociaux » qui constituent la majorité des occurrences de la dimension des champs d'intérêt. Une explication pourrait être que d'une part, il existe une dissémination insuffisante par les professionnels et les médias de l'information sur les symptômes reliés à la dépendance cannabinique[51,52]. D'autre part,

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[48] Bauer R, Bauer M, Spiessl H, Kagerbauer T. Cyber-support: an analysis of online self-help forums (online self-help forums in bipolar disorder). Nordic journal of psychiatry. 2013;67:185-90.

[49] Haker H, Lauber C, Rossler W. Internet forums: a self-help approach for individuals with schizophrenia? Acta psychiatrica Scandinavica. 2005;112:474-7.

[50] Farber BA, Hall D. Disclosure to therapists: What is and is not discussed in psychotherapy. Journal of clinical psychology. 2002;58:359-70.

[51] Gates P, Copeland J, Swift W, Martin G. Barriers and facilitators to cannabis treatment. Drug and alcohol review. 2012;31:311-9.

les messages concernant les « réseaux sociaux » sont peut-être moins fréquent parmi les usagers de cannabis à cause d'un accès naturel à des formes de communauté en vie réelle[53]. Parallèlement, nous avons repéré relativement peu de messages avec un focus sur les « questions légales » ou de « perceptions sociales » comparé aux autres forums d'usagers souffrant troubles mentaux, confirmant le fait que les questions liées à la légalité de la substance n'apparaissent pas comme un problème majeur chez les usagers de cannabis et que le stigma social ne constitue pas une préoccupation majeure de ces derniers[54]. Cela pourrait aussi être lié à une meilleure dissémination d'informations relatives à ces aspects-là, ainsi qu'à l'acceptation croissante de la consommation de cannabis, particulièrement aux Etats-Unis où des processus législatifs et politiques vont dans ce sens[55].

Dans un deuxième temps, nous nous sommes intéressés à la comparaison des forums d'entraide de cannabis entre eux. Une des découverte les plus saillantes de notre recherche est qu'ils diffèrent significativement dans tous les mécanismes d'entraide les champs d'intérêts et sauf sur trois d'entre eux (« réseau social », « problématiques financières » et « problématiques vocationnelles »). Par exemple, sur les forums « Cannabis Addiction » (CA) et « Cannabis Rehabilitation » (CR) les deux thématiques les plus discutées de la dimension des champs d'intérêts sont le « dévoilement/divulgation » et les « symptômes », alors que sur le forum « Marijuana Anonymous » (MA), ce sont le « dévoilement/divulgation » et la question des « traitements ». Ainsi, les messages axés sur les « symptômes » sur le forum MA représentent uniquement la moitié en terme de fréquence par rapport aux deux autres forums (22.2% pour MA vs. 54.5% pour CA et 43.7% pour CR). Cela peut s'expliquer premièrement par le fait que le forum MA suit le modèle de Minnesota (« 12-step »), modèle qui est discuté largement sur le forum et a été codé par nous comme traitement.

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[52] Norberg MM, Gates P, Dillon P, Kavanagh DJ, Manocha R, Copeland J. Screening and managing cannabis use: comparing GP's and nurses' knowledge, beliefs, and behavior. Substance abuse treatment, prevention, and policy. 2012;7:31.

[53] Hathaway AD. Cannabis users' informal rules for managing stigma and risk. Deviant Behaviour. 2004; 25:599-577

[54] Ibid.

[55] Pardo B. Cannabis policy reforms in the Americas: a comparative analysis of Colorado, Washington, and Uruguay. The International journal on drug policy. 2014;25:727-35.

Le modèle Minnesota a été proposé à l'origine par le groupement des Alcooliques Anonymes comme une méthode de traitement de l'alcoolisme, et est constitué d'un ensemble de principes ordonnateurs (abstinence, humilité, amendement, aide non-professionnelle par les pairs). D'une manière quelque peu modifiée (p.ex. permission de l'aide professionnelle), il est actuellement largement utilisé pour traiter des problématiques addictives, particulièrement dans le monde anglo-saxon[56]. Par ailleurs, le ratio beaucoup plus élevé du rapport « fourniture d'information » sur « demande d'information » sur le forum MA comparé aux deux autres forums semble indiquer que cette connaissance/discussion autour des modalités de traitements du modèle de Minnesota est procurée spontanément et non sollicitée par les usagers du forum MA. Une autre différence significative entre les forums est la prévalence plus basse des champs d'intérêts « dévoilement/divulgation », « symptômes » et « demande d'information » sur le forum MA, qui pourrait signaler que les usagers de ce forum se situent probablement, si l'on suit le modèle transthéorique de Prochaska et DiClemente[57], plutôt sur le continuum préparation/action (prêt à changer de comportement ou déjà engagé dans un processus de changement), alors que les usagers des deux autres forums se rangeraient préférablement dans les stades de contemplation/détermination si l'on considère que les trois items susmentionnés sont centraux pour les personnes dans ce dernier stade. Cette hypothèse ne peut pas être vérifiée dans cette étude devant l'absence d'évaluation directe des usagers. Une dernière disparité inter-forum d'usagers de cannabis est que l'on trouve plus d'items codés pour « gratitude » et « cohésion en ligne » sur le forum MA, ce qui correspond bien à un modèle thérapeutique basé sur le soutien groupal et des pairs. En général, et au-delà des disparités mentionnées ci-dessus entre le forum MA et les deux autres, il existe comme évoqué au début de ce paragraphe des différences significatives entre les trois forums en matière d'analyse de contenus. Cela implique que naviguer sur un forum ne procure assurément pas les mêmes contenus en terme de mécanismes d'entraide et de champs d'intérêts que naviguer sur un autre, ce qui pourrait avoir des implications

[56] Matching Alcoholism Treatments to Client Heterogeneity: Project MATCH posttreatment drinking outcomes. Journal of Studies on Alcohol and Drugs. 1997;58(1):7-29.
[57] Prochaska JO, DiClemente CC, Norcross JC. In search of how people change. Applications to addictive behaviors. The American psychologist. 1992;47:1102-14.

pratiques intéressantes pour les intervenants de santé mentale s'agissant d'orienter un client/patient sur des forums spécifiques.

Dans un troisième temps, nous avons comparé les usagers de cannabis entre eux. On retrouve, en ligne avec les travaux précédents, que la plupart des messages sont postés par des personnes recherchant de l'information. L'âge moyen (fin de la vingtaine) est relativement jeune, en accord avec la prévalence élevée de l'usage d'internet parmi les jeunes et leur facilité d'utilisation du web comme support pour la recherche d'informations médicales[58,59,60]. Les modérateurs sont quant à eux en moyenne âgés de 10 ans de plus. Au regard des différences de genre/sexe, nous retrouvons sur ces forums des chiffres plus élevés d'usagers mâles chez les personnes ayant donné l'information du genre/sexe (58% uniquement), ce qui corrèle néanmoins avec une prévalence plus important de consommation cannabinique chez les hommes[61,62]. Une première différence significative inter-genre observée est que les usagers masculins postent plus de messages focalisés sur l' « étiologie/recherche » et les questions relatives aux « diagnostics ». A ce sujet, il existe des évidences dans la littérature que les méthodes de recherche d'aide pour des questions médicales diffèrent entre les genres, avec les hommes qui auraient tendance à moins rapporter les problèmes psychosociaux et les éléments de détresse comme raison additionnelles de recherche d'aide.[63] Une hypothèse alternative serait qu'il y a une majorité d'homme dans la catégorie des usagers hautement impliqués (cf. plus bas dans le texte pour la définition de cette catégorie), et que la différence précitée serait due à cette variable confondante.

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[58] Monney G, Penzenstadler L, Dupraz O, Etter J-F, Khazaal Y. mHealth app for cannabis users: satisfaction and perceived usefulness. . Front Psychiatry. 2015;6.

[59] Trefflich F, Kalckreuth S, Mergl R, Rummel-Kluge C. Psychiatric patients' internet use corresponds to the internet use of the general public. Psychiatry research. 2015;226:136-41.

[60] Khazaal Y, Chatton A, Cochand S, Hoch A, Khankarli MB, Khan R, et al. Internet Use by Patients with Psychiatric Disorders in Search for General and Medical Informations. The Psychiatric quarterly. 2008.

[61] Compton WM, Grant BF, Colliver JD, Glantz MD, Stinson FS. Prevalence of marijuana use disorders in the United States: 1991-1992 and 2001-2002. JAMA : the journal of the American Medical Association. 2004;291:2114-21.

[62] Agrawal A, Lynskey MT. Does gender contribute to heterogeneity in criteria for cannabis abuse and dependence? Results from the national epidemiological survey on alcohol and related conditions. Drug and alcohol dependence. 2007;88:300-7.

[63] Galdas PM, Cheater F, Marshall P. Men and health help-seeking behaviour: literature review. Journal of advanced nursing. 2005;49(6):616-23.

Des différences additionnelles ont été repérées lorsqu'on utilise la méthode statistique EM (expectation-maximization, cf Article de publication originale paragraphe 2.5. Missing data), en particulier les « déclarations négatives » sont plus importantes chez les hommes, et les posts liés au mécanisme d'entraide « professionnels » et « empathie et soutien » sont plus élevés chez les femmes. A ce sujet, il existe des évidences dans la littérature quant à aux différences genrées relatifs aux processus d'empathie, tant sur les aspects qualitatifs que quantitatifs, et des comportements y afférents[64]. Finalement, nous avons souhaité investiguer s'il existait des différences significatives inter-usagers selon l'intensité de leur implication sur les forums, en créant une catégorie d'usagers hautement impliqués représentant le quartile supérieur en terme de nombre de messages postés, ce qui correspond à 140 posts et plus dans notre recherche. On repère que les usagers hautement impliqués postent plus de messages avec un focus sur les questions « diagnostics », d' « étiologie/recherche », de « fourniture d'information » et moins sur la « gratitude ». Ils semblent ainsi actifs sur ces forums surtout pour distribuer des informations sur le modèle biomédical, et moins sur les aspects émotionnels.

Dans un quatrième temps, nous nous sommes penchés sur les corrélations entre les différentes thématiques abordées dans un même message. On y découvre une intéressante corrélation modérément négative entre les thèmes de « soutien émotionnel » et les « aspects liés à la maladie », ainsi qu'entre les aspects de « soutien émotionnel » et les aspects d' « échanges d'informations ». Ceci tend à dévoiler une dissociation partielle entre le soutien émotionnel et le soutien en terme de provision d'information, dissociation non décrite dans les études précédentes puisque celles-ci n'ont pas évalué ce type de corrélations. Une hypothèse pourrait être que certains usagers de cannabis ont des traits/comorbidités psychiatriques de type plutôt affective (dépression unipolaire, bipolaire) et d'autres plutôt schizotypique/psychotique, et que l'on retrouve ainsi les différences mises en évidence par les études de Bauer et Haker discutées dans l'introduction. Une autre hypothèse serait que les usagers se séparent

[64] Christov-Moore L, Simpson EA, Coude G, Grigaityte K, Iacoboni M, Ferrari PF. Empathy: gender effects in brain and behavior. Neuroscience and biobehavioral reviews. 2014;46 Pt 4:604-27.

indépendamment de leurs comorbidités psychiatriques entre ceux intéressés par une explication biomédicale en terme étiologique comparé à un modèle plus orienté recovery/rétablissement, et que cela rejoindrait d'une certaine manière la différence inter-genre retrouvée plus haut. Une dernière hypothèse pourrait être que les usagers s'intéressent de manière séquentielles à des contenus, d'abord plutôt informationnels puis émotionnels ou l'inverse, mais cela semble moins plausible à cause de la durée courte de l'analyse des messages (4 mois).

Notre étude comporte de nombreuses limitations. Principalement, la relative paucité des forums et des messages limite la généralisation de nos résultats. En outre, la nature dynamique de l'information en ligne et l'environnement politique spécialement mouvant en terme de législation sur le cannabis, en particulier aux Etats-Unis, peut aussi être une limitation aux tentatives de réplications de notre étude. Par ailleurs, les informations sur l'âge et le genre des usagers n'étaient pas disponibles pour chaque message, et les raisons pour lesquelles certains usagers n'ont pas communiqué ces informations n'ont pas pu être investiguées. Une autre limitation est l'impossibilité de stratifier le niveau de consommation de cannabis. Nous aurions aussi probablement trouvé de légère différences relatives au choix des forums en usant de mots-clés différents. Finalement, l'absence de design prospectif, de mesure directe des caractéristiques des usagers et de l'évaluation de l'impact des messages sur les usagers des forums ne permet pas de tester de l'efficacité causale des forums d'entraide en ligne sur des indicateurs de santé mentale ou de rétablissement. Il existe donc un besoin d'explorer les conséquences thérapeutiques spécifiques associées à la participation à ces forums dans de futures études.

En conclusion, le web apporte des opportunités grandissantes pour les usagers en santé mentale s'agissant d'accès à l'information ou de partage expérientiel avec des pairs. Dans notre recherche, nous avons repéré que les forums d'entraide en ligne d'usagers de cannabis partagent des similitudes avec d'autres types de forums d'usagers en soins mentaux, que ceux-là diffèrent entre eux de manière significatives, en attirant probablement des usagers se situant à différentes étapes dans leur volonté

de changer leur mode de consommation, et que les usagers postent des messages à thématique différentes selon leur genre et leur implication en terme quantitatif. Nous avons aussi mis en évidence une dissociation partielle entre le soutien émotionnel et le soutien en terme de provision d'information. Globalement, la communication sur ces forums est généralement positive et constructive comme suggérée par la faible quantité de messages à connotation négative, et offre ainsi aux usagers une large palette de mécanismes d'entraide pour faire face à leur consommation de cannabis. Pour les intervenants en santé mentale, ce travail met en lumière la multiplicité des thèmes et des mécanismes d'entraide que l'on retrouve sur les forums d'usagers de cannabis ainsi que leur variabilité inter-forums, et ouvre ainsi des perspectives, dans une optique de soins collaborative, sur le plan de l'adressage des usagers sur différents forums selon les caractéristiques de chacun.