Social media as a means to overcome stress and depression among women

V. R. Revathy*, I. A. Aram and V. S. Sharmila

Department of Media Sciences, Faculty of Science and Humanities, Anna University, Chennai, India.

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Depression constitutes a serious challenge in personal and public health. Tens of millions of people each year suffer from depression and only a fraction receives treatment (de Choudhury, 2013). Stress and depression drains one of the feel-good factors essential to sustain the energy that gives the impetuous to hope and move forward. Depression in women is made more complex because of factors such as reproductive hormones and social pressures. Social media platforms make the way to connect with the public, disseminating helpful information, and establishing control over their online presence. The study analyzes the stress and depression of women-related information on the select pages of Facebook and videos of YouTube. Social Norms Theory and Agenda Setting Theory are employed as theoretical frameworks. Content analysis of Facebook pages and YouTube videos which deal with stress- and depression-related information related to women were undertaken to measure the type and content of messages. The key findings of the study are as follows: Majority of the social media users suggested traditional methods such as physical exercise and yoga to overcome stress and depression; In YouTube, reality videos were mostly used followed by demonstration, testimonial and animation formats: and social media sets the agenda for women with regard to responses to stress and depression, and helps reinforce and redefine social norms amidst patriarchy.

Key words: Facebook, YouTube, stress, depression, social media, women.

INTRODUCTION

Social media allow people to get closer than ever before, regardless of where they are in the world. It cannot be denied that social media (such as Facebook) has changed the way people around the world communicate, interact and socialize with one another (Kietzmann et al., 2011; Xiang and Gretzel, 2010).

Overall, women tend to report more stress than men. But, those women who use a number of digital technologies to communicate with others tend to report less stress than women who do not use these technologies. Social media use is related to even higher levels of awareness of the stressful events that unfold in the lives of people they know (Hampton et al., 2015).

Social networking sites such as Facebook and YouTube have numerous contents to gain consciousness on stress and depression vis-à-vis women in the recent years. To a greater extent, many turn to social media to get information related to healthcare. Depression constitutes a serious challenge in personal and public health. Tens of millions of people each year suffer from...
depression and only a fraction receives treatment (de Choudhury, 2013). Depression in women is made more complex because of factors such as reproductive hormones and social pressures.

The estimate of the global burden of disease predicts that depression will be the second-leading cause of disability worldwide by 2020. Depression is widely prevalent in women in all age groups especially in India where 1.2 billion population lives (Bohra et al., 2015). Stress and depression are a severe state that can impact every aspect of women's life. They affect social life, family relationships, career, and one's sense of self-worth and purpose. If one experiences stress over a long time and no action is taken, it may become chronic. Some do not know they have a problem until acute stress causes a heart attack or something worse. Stress starts interfering with one's ability to live a normal life. The longer the stress, the worse it is for both one's mind and body. Reducing stress levels can not only make one feel better right now, but may also protect one's health for a long time to come.

According to World Health Organisation (WHO) (2016), Indians are reported to be among the world's most depressed. Women report higher levels of psychological distress and have higher rates of mood and anxiety disorders, while men have greater alcohol and drug problems, substance use disorders, aggressive behaviours, and anti-social personality disorders (Kessler et al., 2005; Kessler and Zhao, 1999; Mirowsky and Ross, 2003).

In addition, depression is also an important cause of domestic violence, which affects the lives of women. Regular screening of all women patients visiting general hospital settings for domestic violence should be made mandatory to prevent damage to their physical and mental health. Recently, there has been a growing trend in India of shifting the age-old status of women from homemakers to the working class, which offers them independence, financial freedom and stability.

Long hours of working under strict deadlines lead to depression or general anxiety disorder compared to women with lesser levels of psychological demands at work. Work pressure and deadlines have resulted in skipping meals and opting for junk food. Women working in the sectors that demand strenuous work are unable to take leave when unwell. Factors such as exposure to the poor quality of sleep, lack of exercise, deprived nutrition and, at times, excess consumption of alcohol cause depression.

Social media offers an ambient understanding of instant connection with the public and for the interactive spreading of vital information. While social networking can help strengthen guest loyalty and satisfaction, it can also lead to unfair negativity, inaccurate information and undue criticism. When the input is mostly anonymous, as it is with many social platforms, participants are likely to have a polarized stance, opinion or critique. Social media is a new and continually developing area. While there is a growing body of research on health information in social media, most of them concentrate on how women could use this information. This study analyzes how social media influences women in healthcare vis-à-vis stress and depression. The objectives of the study are:

1. To analyze the content related to stress and depression with regard to women posted in social media.
2. To find the use of social media as an interactive platform for women to overcome stress and depression in the Indian context.

STATEMENT OF PROBLEM

The study analyzes the stress and depression of women-related information in the select pages of Facebook and videos of YouTube in the Indian context.

REVIEW OF LITERATURE

Stress processes include three components: an internal state of the organism (strain), an external event (stressor) and an experience that arises from a transaction between a person and the environment (Mason, 1975). Strain refers to physiological, emotional and cellular reactions. For example, emotional reactions include negative affect, emotional numbing and lower positive affect. Stressor refers to trauma, life events, hassles / daily stressors, aversive physical environment, chronic role strain, and cumulative adversity. Some researchers focus on the psychological perspective of stress.

For example, Lazarus and Folkman (1984) defined psychological stress as involving "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p.19). For instance, Grant et al. (2003) defined stress as environmental events or chronic conditions that objectively threaten the physical and/or psychological health or well-being of individuals of a particular age in a particular society. A number of researchers use external events as stress, and use the experience that arises from a transaction between a person and the environment as the mediating or moderating mechanisms between stress and the first component, i.e., biological, physical or emotional outcomes. Likewise, the aggregated external life events were used as the operationalized definition of stress (Zhang, 2013).

Petersen et al. (1991) found that reports of significant episodes of depressed mood (lasting two weeks or longer) increased from early adolescence to middle adolescence for both boys and girls. Depressive syndrome refers to a constellation of emotions and behaviours that occurs together (Reinemann and
Swearer, 2005). Researchers investigate the relationship between stress and the severity levels of depressive symptoms. The assessment of major depression is more labour-demanding and requires professional training for interviewers compared to depressive symptoms checklists (Zhang, 2013).

Gibney and McGovern (2011) studied the relationship between social interaction and mental health which is an area of continued focus for the social sciences. They examined the effect of social support network type on mental health in the context of two competing psychological models, pertaining to social influence and tangible resource. The magnitude of this effect is comparable to divorce, and appears to be mediated through feelings of loneliness. They found no evidence that being in such a network exacerbated the distress associated with traumatic life events. Strong spousal support was also found to have a positive effect, but again only for women. Profiling individuals by their social network type provided a means of identifying those most at risk of developing depressive symptoms as they age.

Facebook remains the most popular social media platform, with its users visiting the site more regularly than users of other social media sites. Roughly three-quarters (76%) of Facebook users report that they visit the site daily, 55% visit several times a day, and 22% visit about once per day. This represents a modest but a statistically significant increase from the 70% of Facebook users who indicated that they visited the site daily in 2015. Further, Instagram and Twitter occupy the middle tier of social media sites in terms of the share of users who log in daily. Roughly half (51 percent) of Instagram users access the platform on a daily basis, with 35 percent saying they do so several times a day. And, 42 percent of Twitter users indicate that they are daily visitors, with 23 percent saying they visit more than once a day (Greenwood et al., 2016).

Social networking site (SNS) users under the age of 50 are particularly likely to use a SNS of any kind, and those aged 18-29 are the most likely of any demographic cohort to do so (83%). Women are more likely than men to be on these sites. Those living in urban settings are also significantly more likely than rural internet users to use social networking. Facebook remains the most-used social networking platform, as two-thirds of online adults say that they are Facebook users. Women are more likely than men to be Facebook users, and Facebook use is especially common among younger adults (Duggan and Brenner, 2013).

Delivery of interventions that use existing online social networks such as Facebook and Twitter appears to offer particular promise for sustained engagement, due to their high level of user retention and engagement, whether retention and engagement with specific aspects of these platforms (such as a specific app or Facebook group delivering a health intervention) matches this is currently unclear. Innovative approaches reflecting the way people use online social networks (with existing friends and for entertainment) are warranted. This research may be useful for both health researchers and human-computer interaction researchers who design and implement technology-based interventions integrating social networking to facilitate health interventions (Maher et al., 2014).

The Social Marketing plan is a professional alternative to introduce customer orientation as regards integrated marketing to promote consumer satisfaction through behaviour change in the public health. The plan guides the entire processes from the individual's perspective, increasing the chances of success of a given campaign and decreasing the discrepancies between the planned and the performed. But the introduction of Social Marketing culture is an unfolding of the lack of customer-orientation in the health campaigns (Silva and Afonso, 2015).

Now these technologies are beginning to pervade the healthcare space, just as they have so many others. Today, patients appear to be becoming more engaged with their care in general, and one of the many results is that they are increasingly using the internet to share and rate their experiences of healthcare. They also use the internet to connect with others having similar illnesses, to share experiences, and begin to manage their illnesses by leveraging these technologies. They suggest using natural language processing and sentiment analysis to transform unstructured descriptions of patient experience on social networks, blogs, Twitter and hospital review sites into usable measures of healthcare performance (Rozenblum and Bates, 2013).

Valkenburg et al. (2006) studied the consequences of friend networking sites (for example, Friendster, MySpace) for adolescents’ self-esteem and well-being. They conducted a survey among 881 adolescents (10 to 19-year olds) who had an online profile on a Dutch friend networking site. Using structural equation modelling, the study found that the frequency with which adolescents used the site had an indirect effect on their social self-esteem and well-being. The use of the friend networking site stimulated the number of relationships formed on the site, the frequency with which adolescents received feedback on their profiles, and the tone (that is, positive vs. negative) of this feedback. Positive feedback on the profiles enhanced adolescents' social self-esteem and well-being, whereas negative feedback decreased their self-esteem and well-being.

de Choudhury et al. (2013) explored the potential to use social media to detect and diagnose the major depressive disorder in individuals. The study first employed crowdsourcing to compile a set of Twitter users who report being diagnosed with clinical depression, based on a standard psychometric instrument. Through their social media postings over a year preceding the onset of depression, the study measured behavioural attributes relating to social engagement, emotion,
language and linguistic styles, ego network, and mentions of anti-depressant medications. There is a need to identify and enable those suffering from depression to be more proactive about their mental health.

Oh et al. (2014) examined the effect of supportive interactions on social networking sites. They used a series of multilevel models and a path model to see the relationships. Supportive interactions enhanced positive affect after the interaction. The positive affect indirectly enhanced sense of community and life satisfaction. Perceived social support mediated the effect of positive affect on these outcomes. The purpose of this study is to examine whether supportive interactions on social networking sites mediate the influence of SNS use and the number of SNS friends on perceived social support, affect, sense of community, and life satisfaction. A path model revealed positive associations among the number of SNS friends, supportive interactions, affect, perceived social support, sense of community, and life satisfaction.

According to Clerk et al. (2013), social networking sites like Facebook represent a potentially valuable means for individuals with low self-esteem or inter-personal difficulties to connect with others; however, recent research indicates that individuals who are most in need of social benefits from Facebook may be ineffective in their communication strategies, and thereby sabotage their potential to benefit inter-personally. The study tested whether reassurance seeking via Facebook negatively influenced self-esteem. Results provided evidence that Facebook reassurance seeking predicted lower levels of self-esteem, which in turn predicted increased feelings that one does not belong and that one is a burden.

According to Best et al. (2014), to review and synthesise systematically current empirical research on this topic, identifying both the beneficial and harmful effects of online communication and social media technology among young people. A systematic narrative review of research published between January 2003 and April 2013 retrieved using rigorous searching on eight bibliographic databases. The benefits of using online technologies were reported as increased self-esteem, perceived social support, increased social capital, safe identity experimentation and increased opportunity for self-disclosure. This systematic narrative review has revealed contradictory evidence while revealing an absence of robust causal research regarding the impact of social media on the mental well-being of young people. Jindani et al. (2015) found that yoga may be effective in the reduction of post-traumatic stress disorder (PTSD) symptomology. The study evaluated the impact of a Kundalini Yoga (KY) treatment on PTSD symptoms and overall wellbeing. A 15-min daily home practice was integrated into the 8-week protocol. A 20-min YouTube video was created to make the support and instruction of a teacher available to participants as needed. The rationale for the home practice was that participants would learn tools to self-soothe in the programme that they could use upon programme completion. The yoga programme also integrated guidelines for trauma sensitive yoga which emphasize inviting participants to try poses but never to stay in a posture that makes them uncomfortable. This yoga study demonstrated significant changes in PTSD scores and other areas of well-being between the yoga and waitlist control groups.

THEORETICAL FRAMEWORK

The media is successful in influencing the people in all aspects. The study relies on Agenda Setting Theory and Social Norms Theory. According to Agenda Setting Theory, people get influenced more on any issues which are constantly emphasized by the media. The people will consider an issue to be important if the media covers it repeatedly. There are a plenty of evidences that could prove the efficiency of the media in setting an agenda. At the same time, the agenda setting effect is said to be low for issues that the people can figure out the reality. When people are well aware of the issue the media portrays them, there are more chances they counter argue the version provided by the media on the particular issue (McCombs and Shaw, 1972).

In case of social media, in particular, people put in content so that it dictates the content of even the mainstream media, which is termed as reverse agenda setting. The media's agenda-setting effect on the public is the most celebrated of the theories in communication studies. It explains the correlation between media and public opinion, and advocates that mass media has a significant impact on shaping the agenda for political campaigns by making people aware of important political issues. But the proliferation and expansion of the social media has challenged the role of the conventional mass media in setting the public agenda by coming out with a new approach that it is no longer the media but the public which propose issues on the agenda and reversely that agenda is accepted by the conventional media as public agenda. This approach is popularly accepted as reverse agenda-setting which urges that the opinion of people, disseminated through various social media platforms, influences news converges and sets the media agenda (McCombs, 2014).

Social Norms Theory describes the condition where an individual changes attitude or adapt to certain behaviour due to the peer group or social influence. This can be both good and bad based on the behaviour adapted. It has been found that the social norms have been successful in the anti-smoking and anti-alcohol campaign (Lederman and Stewart, 2005). Thus social norms could have an impact on the health behaviour of an individual when it comes to stress and depression too.

METHODOLOGY

This research mainly analyses the social media text with
regard to stress and depression on women. Content analysis, which is used in this study, is a quantitative method used to measure attitudes, opinions, behaviours and other defined variables and simplify result from a larger sample population. It analyses the presence of certain words, phrases, concepts, and characters in a text or sentence, and quantifies them objectively. The text in this study is defined as messages or articles related to a specific health issue, and reactions to them. To analyze the content, the researchers have stratified the text into manageable categories such as articles, repeat articles, comments, photographs, or videos.

In this study, select Facebook pages and YouTube videos were analyzed. Audience reactions to the content were also analyzed using the units of measurements such as characteristic of the message: type of message, interactivity rate, interaction rate based on post type, number of comments, number of likes, number of shares, and relevant message; and content of the message: type of information covered, and targeted age. A Facebook page is essentially an online community for fans of a business, product, or celebrity, and it provides a platform for comments, photographs, videos, and other links. The following parameters were analyzed:

Likes: The number of "likes" a post receives is the number of users who have viewed it.
Comments: "Comments" are any content that has been posted by a user on the Facebook page.
Shares: "Shares" refer to any post that has been re-clogged from the Facebook post onto an individual's Facebook page.
Reaction: "Reactions" can be used to comment on a post Love, Ha-ha, Wow, Sad and Angry to express their views.
Followers: In a social media setting, a “follower” refers to a person who subscribes to your account to receive your updates.

The researchers coded the articles for characteristic, content and framing of the article. The characteristics of the articles include variables such as the type of message, interactivity rate, interaction rates, like, shares, etc. The variables in the content include health issues covered, target age, and visual image or video. The content of the messages could be classified as: type of information covered, and targeted age.

### Sampling procedure

The time period of the study is from the beginning of December 2016 to the end of January 2017 (two full months). The ‘stress’ and ‘depression’ have high rising trend issues among ‘women’. Using ‘stress’, ‘depression’ and ‘women’ as key words, Facebook pages were selected based on popularity assessment. The same procedure was followed in the selection of YouTube videos. The items were chosen during the specified two-month period using the purposive sampling technique.

Using #verified in Facebook which lets people know that the pages are authentic, the most popular stress- and depression-related pages were selected. An authentic page must have a blue badge on a page; it means that Facebook confirmed that this is the authentic page for a public figure, a media company or a brand. The Facebook search is user centric and the results are always based on the previous use of the users. To avoid errors, a new Facebook account was created with minimum information such as name, age and gender. The search history and cookies were also deleted while searching for pages. The selection of pages was made by viewing the top posts on the topic. The pages focusing only on women were selected and hence the men’s health pages were left out. According to Facebook, “if someone uses a reaction, Facebook will infer that person wants to see more of that type of post”.

In this study, content analysis helped to find how women actively followed up stress- and depression-related posts, using keywords to analyze based on a number of parameters. These parameters were used to analyze the details of healthcare information message posts. This helped understand the influence and effectiveness of women accessing Facebook pages and YouTube videos vis-à-vis stress and depression. YouTube has developed into a prominent online video-sharing destination, whereas Facebook not only has videos but also has interactivity. Quantitative content analysis has thus been used (as coded in Appendix 1) added with qualitative interpretations. The lists of Facebook pages and YouTube videos selected are presented below. The following 11 Facebook pages / YouTube videos were selected for the analysis:

1. BuzzFeedVideo is Motion Picture’s flagship channel. Sometimes funny, sometimes serious, always shareable.
2. Glamrs.com is the first Indian make-up, beauty, style, fitness and lifestyle video platform for women. You may tune in daily for the latest and trendy make-up tips, healthcare, fashion ideas, nail art, daily life hacks, interesting do it yourself (DIY) videos and much more.
3. Mom Junction Kids is one junction to know everything about pregnancy and parenting.
4. POPxo is about fashion, beauty, lifestyle which is everything the modern Indian woman needs. They release articles which mostly revolve around daily lives and thoughts of a regular woman. Posts are mostly on a to-do things you should know, remedies, home tips, etc.
5. StyleCraze offers a global trend catering to women’s beauty, fitness and health. It has a massive number of informational videos on various niches such as health, beauty, yoga, fitness and natural home remedies. From make-up techniques to mehndi [drawing on hand] art, fitness regimes to yoga asanas [exercises], and also to use simple things you find at home to cure the physical and mental ailments.
Figure 1. Reaction to stress and depression Facebook posts.

(6) Super Healthy Kids provides healthy ideas for children and families.
(7) Women's Health provides actionable tips and expert advice on fitness, health, nutrition, weight loss, relationships, beauty, style, career and everything in between. To become a better version of yourself, it gives you the latest insight and resources to get there and the encouragement you need to feel great about yourself every step of the way.
(8) Women's Health and Fitness Summit brings together world renowned presenters and cutting edge information to offer fitness professionals, women's health physiotherapists and women united by women's health as an event of education and networking.
(9) Doyouyoga.com bridges body and mind, bringing the world's best online yoga classes, motivation and inspiration to the yoga community worldwide.
(10) World Health Organization (WHO) offers the official public health information of WHO.
(11) Homeveda provides some awesome natural home remedies for all your health and beauty concerns. It also provides you symptom and causes information for all the health conditions, helping you identify and prevent health problems from recurring.

ANALYSIS AND INTERPRETATION

Figure 1 shows the ways Facebook users of the pages on stress and depression have reacted to the posts. Users have various access tools on Facebook such as a number of likes, reaction, share and comments. The analysis of Facebook pages shows that 40% of users visit the posts and give ‘like’ to information updated only by the organizations, while 30 percent of users react to the post updated. And 20% of users actively comment, and the remaining 10% of users share updated posts regarding stress- and depression-related issues. Users have a great preference for likes and least for shares. The likes are more because it is the easiest to do without much effort. The comments comprise 20 percent. Not many comments are elaborate. The likes and comments push the message to the top of the pages of the Facebook users, thus setting the agenda among the social media users.

As shown on Figure 2, women who fall under 25 years of age were actively involved (45%) in seeing the posts on stress and depression on social media, whereas women above the age of 35 were least users (5%). Age is strongly correlated with social media usage: Those aged below 31 have always been ardent users of social media (75%). Young women are considered the ‘power users’ of social media. Stress and depression information on Facebook has various categories such as videos, articles, facts, events and advertising as seen in Figure 3.

While analyzing various categories of information delivered through Facebook and YouTube, 40% of posts were articles, 35% were videos, 10% was about the healthy and important facts in our daily life, 5% was about conducting events such as training, workshops, conference related to health, and 10% about promoting the health sector advertising in Facebook pages and YouTube videos. Articles and videos take a major share as they have enough space and time to pass on some vital information. Articles are mostly written in-depth by experts, whereas videos give moving visuals which captivate the attention of the viewers by presenting the issue in the social context.

‘Physical’ refers to ailments arising out of stress. ‘Relationship’ stress may be caused by a drip-drip effect of never-ending criticism, feeling unheard, and sexual problems. ‘Fitness’ is stress because of not being happy about one’s shape such as being over-sized. ‘Post-partum’ depression is common among new mothers with the symptoms of overwhelming sadness, feelings of hopelessness, worthlessness, and low self-esteem.

As seen in Figure 4, these types of stress and depression were depicted in Facebook and YouTube. As much as about 25% of information is of post-partum depression concerning stress after the pregnancy / child birth. Post-pregnancy period offers the maximum stress nowadays in India in particular, with the joint family
system waning rapidly and the much-needed societal support now not forthcoming. About 20% of information covered physical stresses such as menstrual cramps, pain and health problems, and another 20% of information was content based on work-related stress. Fitness is an important content covered which too
Emotive icons communicate a lot. There are now five different Facebook reactions you can use to comment on a post: Love, Ha-ha, Wow, Sad and Angry (Figure 5 and Appendix 1). About 45% of the users used Love, which is a heart emoticon, being used when you liked the post or the person who posted it. About 15% used Ha-ha, which is a squinty-eyed grin, instead of writing “Ha-ha” or “LOL” in a comment. And 25% used Wow, it is a surprised face, used when something catches you off-guard, positively or negatively. And 5% used sad emoticon which is fairly self-explanatory. If a post gives you sad feelings, one could use the sad reaction. The same goes for the scowling angry face which happens for about 10% of the messages posted on Facebook – this post makes me angry is a pretty direct reason to use this reaction icon.

Nearly half the reactions were in terms of ‘Love’ which is a basic instinct which most of the young women share to send positive vibrations.

Social Norms Theory posits that your behaviour is influenced by misperceptions of how your peers think and act. Overestimations of problem behaviour in your peers will cause you to increase your own problem behaviours; underestimations of problem behaviour in your peers will discourage you from engaging in the problematic behaviour. Accordingly, the theory states that correcting misperceptions of perceived norms will most likely result in a decrease in the problem behaviour or an increase in the desired behaviour (Perkins and Berkowitz, 1986).

Thus, social media content on stress and depression initiates peer discussions and is capable of correcting misperceptions of perceived norms. Formats of videos in communicating stress and depression information played a major role in gaining the attention of the audience as seen in Figure 6. In YouTube videos, 45% of video format were actuality like giving tips or remedies about stress and depression issues, 35 percent of video formats were...
in demonstration such as yoga and physical exercises, 15% were in testimonial format such as explaining their personal experience, and the remaining 5% were animation video to attract users’ attention. The video format of actuality was most popular as it gave more authenticity. It presented instances from real life and helped reinforce social norms. Demonstration of physical exercises and yoga gave the users an opportunity to keep themselves fit by learning tips even while remaining at home.

Figure 7 presents the amount of content and followers the Facebook pages and the YouTube videos have. About 75% of the followers were in Facebook whereas only 40% of the followers were in YouTube. About 85% of content was delivered through Facebook and 60% was delivered through YouTube. No doubt, Facebook is more popular particularly since the pages could open up in low bandwidth too and it offers you interactivity. Most women use Facebook as a means to overcome depression rather than YouTube. This also means that the interactivity of Facebook helps women to go beyond agenda setting and get into a programme of action besides setting reverse agenda for the mainstream media, unlike in YouTube.

CONCLUSION

The rapid growth and diffusion of social media and social networking sites in the last decade have created opportunities for people to find and share information about a wide variety of stress and depression, and to realize the importance of mental health. The first of the two objectives of the study is to analyze the content posted in the social media with regard to stress and depression on women.

Facebook users of women discussed stress and depression regarding their physical health and their lifestyle. The majority (65%) of the users suggested traditional methods such as physical exercises and yoga to overcome stress and depression. Traditional remedies offer the easiest and compact ways to give solutions, particularly of self-help, without the face-to-face consultation with health specialists. Pregnant and post-partum women are interested in practising yoga for normal delivery and later to get back to shape. Jindani et al. (2015) found that the rationale for the home yoga practice through YouTube videos was that participants would learn tools to self-soothe in the programme that they could use upon programme completion. Activities like yoga and relaxation exercises not only help reduce stress but also boost immunity (Kiecolt-Glaser and Glaser, 2018).

The second and the final objective of the study is about the use of social media as an interactive platform for women to overcome stress and depression. The findings show that women communicate a lot through emotive icons. The reason is that most of the content focus on problems faced by young women, new mothers and elderly women. Facebook reactions they use are: Love, Ha-ha, Wow, Sad and Angry. About half the users made use of ‘love’ which is a heart emoticon, being used when you liked the post or the person who posted it. This is because love is one of the most basic instincts. About 15% used a squinty-eyed grin, instead of writing “Ha-ha” or “LOL” in a comment. And 25% used Wow, a surprised face. And 5% used sad emoticon to share sad feelings. The same goes for the scowling angry face which
happens for about 10% of the messages.

More women use Facebook as a means to overcome depression rather than YouTube particularly because the interactivity in the medium helps women to set reverse agenda for the mainstream media besides getting reassurance from the peer group for the problems at hand. Users have various access tools on Facebook such as a number of likes, reaction, share and comments. The likes are more (40%) because it is the easiest to do without much effort, whereas the comments constitute 20%. The likes and comments push the message to the top of the pages of the Facebook users, thus setting the agenda. In YouTube, reality videos were mostly used followed by demonstration, testimonial and animation formats. About 25% of messages were relevant to post-partum information regarding stress and depression related to post-pregnancy. Earlier, women in India had much support from the joint family system which has drastically reduced in the recent years.

Social media sets the agenda for women with regard to responses towards stress and depression, and helps reinforce and redefine social norms amid patriarchy. To adopt a (desirable) social norm, you need inter-personal confirmation through peer groups on the issue presented in the media preferably, and this inter-personal dialogue could happen through Facebook and not much through YouTube. The social norms theory says that the gap between perceived and actual is a misperception, however, by social media challenging through peers one’s behaviour influenced by misperceptions, one could imbue desirable social norms which would promote good mental health. This means that Facebook goes beyond agenda setting by not only bringing the issue to limelight but also motivating women through interactions for reverse agenda setting for the mainstream media and for taking personal action.

The reason for lesser followers for YouTube could also be attributed to certain public institutions blocking YouTube videos in their work environment. Facebook and YouTube could have a symbiotic relationship with one supporting the other. However, both Facebook pages and YouTube videos are effectively used to set the agenda of a need to grapple with stress and depression among women, which will go hand-in-hand with face-to-face initiatives for promoting mental health among women.

**CONFLICT OF INTERESTS**

The authors have not declared any conflict of interests.

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### Appendix 1. Quantitative content analysis of social media and interactivity.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Date</th>
<th>Content</th>
<th>Deliverable</th>
<th>Interactivity</th>
</tr>
</thead>
</table>
| 1   | Jan 26, 2017 | 29 Easy and fun ways to feel a little less stressed breathe in, breathe out                                                                                                                            | Article     | Likes – 792  
Reaction – 50 love  
Shares – 260  
Comment – 67 |
| 2   | Dec 30, 2016 | The manufactured intimacy of online self-care. In stressful times, we turn to the internet to take care of us, but if the connection is one-sided, does it count?                                                   | Article     | Likes – 15  
Reaction – 2 wow  
Shares – 0  
Comment – 2 |
| 3   | Dec 25, 2016 | We know what will calm your holiday stress right now. This is the season to be a bundle of anxiety                                                                                                         | Article     | Likes – 26  
Reaction – 1 love  
Shares – 1  
Comment – 3 |
| 4   | Dec 17, 2016 | People are stressed that this stress-tracking bracelet isn’t working. After customer complaints about non-working and no-show Sona bracelets, wearable start-up Caeden says it is offering refunds and finally filling orders | Article     | Likes – 17  
Reaction – 3 laugh  
Shares – 0  
Comment – 2 |
| 5   | Dec 12, 2016 | 20 people who are barely surviving finals week stress. “Why study for finals when you can focus all your time on praying you get hit by a car when you cross the street”                             | Article     | Likes – 87  
Reaction – 18 laugh, 3 love 2, sad 1, wow  
Shares – 11  
Comment – 11 |
| 6   | Dec 11, 2016 | 20 people who are barely surviving finals week stress, “Why study for finals when you can focus all your time on praying you get hit by a car when you cross the street”                              | Article     | Likes – 957  
Reaction – 134 laugh, 30 love, 4 sad  
Shares – 238  
Comment – 120 |
| 7   | Jan 17, 2017 | This woman beautifully opened up about her experience with post-partum depression. “Cheers to knowing that this too shall pass! And things will get better”                                                       | Article     | Likes – 303  
Reaction – 40 love, 4 sad, 1 angry  
Shares – 25  
Comment – 7 |
| 8   | Dec 29, 2016 | 16 depressing AF science and health stories from 2016                                                                                                                                                   | Article     | Likes – 122  
Reaction – 54 sad, 1 angry, 1 wow  
Shares – 43  
Comment – 6 |
| 9   | Dec 18, 2016 | Rising temps, medical failures, harassers, deniers…plus those poor giraffes :(                                                                                                                          | Article     | Likes – 2.3k  
Reaction – 204 love, 79 laugh, 36 sad, 1 angry  
Shares – 888  
Comment – 116 |
### Appendix 1. Contd.

#### Glarms

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Title</th>
<th>Likes</th>
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<tbody>
<tr>
<td>10</td>
<td>Jan 11, 2017</td>
<td>Eat your way to a stress-free day! 5 ways to reduce anxiety with these stress-busting foods!</td>
<td>416</td>
<td>6</td>
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<tr>
<td>11</td>
<td>Jan 6, 2017</td>
<td>Pressure? What pressure? Here's some expert advice to ease the stress of all brides to be! #YouAreWelcome</td>
<td>230</td>
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<tr>
<td>12</td>
<td>Dec 31, 2016</td>
<td>Are you stressed, moody and socially withdrawn without reason? Well, PMS could be the culprit! #LadyProblems</td>
<td>186</td>
<td>3</td>
<td>66</td>
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<tr>
<td>13</td>
<td>Dec 22, 2016</td>
<td>'Stressed' spelled backwards is 'Desserts'. Coincidence? We think not. Cherry Garcia Ice Cream - No Churn</td>
<td>9.4 k</td>
<td>444</td>
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<td>14</td>
<td>Dec 19, 2016</td>
<td>Should you really stress about the hair strands that you lose every day? Here's a quick insight on all your hair fall woes!</td>
<td>703</td>
<td>11</td>
<td>202</td>
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<td>15</td>
<td>Dec 13, 2016</td>
<td>Eat your way to a stress-free day! 5 ways to reduce anxiety with these stress-busting foods!</td>
<td>416</td>
<td>6</td>
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#### Mom junction

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<tr>
<td>16</td>
<td>Jan 17, 2017</td>
<td>Stress in pregnancy effects on baby - The reality stress in pregnancy effects on baby – reality</td>
<td>6.8k</td>
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<td>133</td>
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<td>17</td>
<td>Jan 13, 2017</td>
<td>Stress during pregnancy - good or bad for your baby?</td>
<td>3.3k</td>
<td>26</td>
<td>1</td>
<td>14</td>
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<td>18</td>
<td>Jan 11, 2017</td>
<td>9 common signs of your baby is hungry. Feeding babies can stress out new moms</td>
<td>3.9k</td>
<td>53</td>
<td>12</td>
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### Appendix 1. Contd.

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<td>19</td>
<td>Jan 3, 2017</td>
<td>3 reasons why breastfed babies grow up as healthy adults as health experts stress on factors</td>
<td>Article</td>
<td>– 1.6</td>
<td>– 26 love</td>
<td>– 29</td>
<td>– 18</td>
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<td>20</td>
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<td>Stress in pregnancy effects on baby - The reality stress in pregnancy effects on baby – reality</td>
<td>Article (repeated)</td>
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<td>– 459</td>
<td>– 23</td>
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<td>21</td>
<td>Dec 14, 2016</td>
<td>Stress in pregnancy effects on baby- The reality stress in pregnancy effects on baby – reality</td>
<td>Article (repeated)</td>
<td>– 3.4k</td>
<td>– 36 love, 122 sad, 24 wow, 4 sad, 1 laugh, 1 angry</td>
<td>– 135</td>
<td>– 27</td>
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<td>22</td>
<td>Jan 6, 2017</td>
<td>Do antidepressants during pregnancy cause birth defects</td>
<td>Article</td>
<td>– 2.3k</td>
<td>– 15 love, 3 sad, 30 wow, 4 sad, 3 angry</td>
<td>– 121</td>
<td>– 0</td>
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</tbody>
</table>

**POPxo**

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
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<th>Type</th>
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<tbody>
<tr>
<td>23</td>
<td>Jan 9, 2017</td>
<td>Dear bride-to-be, if the hows and whats of wedding planning are stressing you out, we’ve got you covered. The ultimate guide. To plan your dream wedding like a &quot;pro&quot;!</td>
<td>Article</td>
<td>– 41</td>
<td>– 1 love</td>
<td>– 13</td>
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<tr>
<td>24</td>
<td>Jan 10, 2017</td>
<td>To give your skin the much-needed boost in between your wedding celebrations! 13 amazing face masks to hide all that pre wedding stress!</td>
<td>Article</td>
<td>– 28</td>
<td>– 1 sad</td>
<td>– 0</td>
<td>– 17</td>
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<tr>
<td>25</td>
<td>Jan 6, 2017</td>
<td>&quot;The relationship was getting very stressful for both of us. A few months later, I got a call that changed my life.&quot;</td>
<td>Article</td>
<td>– 120</td>
<td>– 7 sad, 3 angry, 1 love</td>
<td>– 0</td>
<td>– 17</td>
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<tr>
<td>26</td>
<td>Jan 2, 2017</td>
<td>Take a day off - Not for shopping or planning or trials – do this just to be with yourself. 12 ways to de stress before the shaadi [wedding]</td>
<td>Article</td>
<td>– 17</td>
<td>– 0</td>
<td>– 0</td>
<td>– 13</td>
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<tr>
<td>27</td>
<td>Dec 18, 2016</td>
<td>Wedding planning stress affecting your gorgeous hair? Worry no more! 10 ways to fight hair fall be your big day</td>
<td>Article</td>
<td>– 82</td>
<td>– 0</td>
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<td>– 1</td>
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**Stylecraze health remedies**

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<tbody>
<tr>
<td>28</td>
<td>Jan 28, 2017</td>
<td>Don't let the stress get the better of you!</td>
<td>Fact</td>
<td>– 187</td>
<td>– 1 angry</td>
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Appendix 1. Contd.

<table>
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<tr>
<th>Date</th>
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<th>Shares</th>
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<td>Jan 27, 2017</td>
<td>Did you know that squeezing releases some kind of energy, and also helps you relax?</td>
<td>Fact</td>
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<td>Jan 19, 2017</td>
<td>5 simple ways to control hair loss due to stress</td>
<td>Article</td>
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<tr>
<td>Dec 24, 2016</td>
<td>10 Effective Home Remedies For #Baldness</td>
<td>Article</td>
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<td>Dec 18, 2016</td>
<td>5 simple ways to control #HairLoss due to stress</td>
<td>Article</td>
<td></td>
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<tr>
<td>Dec 10, 2016</td>
<td>5 Simple Ways To Control #HairLoss Due To Stress</td>
<td>Article repeated with a different photograph</td>
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<tr>
<td>Jan 8, 2016</td>
<td>This Is Why You Suffer From #Obesity, Depression &amp; Many Others</td>
<td>Article</td>
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<td>Dec 3, 2016</td>
<td>Visit the following link to know few additional #Tips on how to overcome depression.</td>
<td>Video</td>
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<tr>
<td>Jan 23, 2017</td>
<td>Some great tips here! How do you make dining out with kids more enjoyable?</td>
<td>Article</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan 17, 2017</td>
<td>It's the last day for your kids to be enrolled in this online Kids Cooking Class! Teach your kids without stress</td>
<td>Picture</td>
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</table>
If you love the idea of your kids being more independent in the kitchen, this one's for you. It's the last day for your kids to be enrolled in this online Kids Cooking Class! Teach ur kinds without stress.

Ummm. prune pudding? I'm not too sure about that one! 5 depression era recipes that will quickly become family favourites while saving you money.

We highly recommend bookmarking this: http://spr.ly/61808ryGC13 Realistic self-care tips that will keep you calm in stressful times.

DJ Gray was a stress eater. Discover how she overhauled her diet and exercise routine, and went from 240 to 125 pounds: http://spr.ly/61838rHfN

Including the one thing she can't start her day without: http://spr.ly/61848r8I6 Here's How Haylie Duff Makes Her Mornings Stress-FreeCelebs: Their hectic mornings are just like ours.

Even stress sweat doesn't stand a chance: http://spr.ly/61808rHji7 tips that keep your pits smelling fresh all day long.

One of them can even help fight stress. http://spr.ly/61898RABR

Everyone overeats sometimes, but people who eat the most mindfully don't stress about it they know they can just bounce right back. http://spr.ly/61808uOvo

Learn the three tips that helped her lose over 40 percent of her weight. http://spr.ly/61898uDQP

There are so many stress-busting benefits of orgasming: http://spr.ly/61858Pur9 via Bustle 7 sex position when u feel stressed.
<table>
<thead>
<tr>
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<th>Type</th>
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<td>50</td>
<td>Dec 25, 2016</td>
<td>Yoga has forever changed this RHONJ star:</td>
<td>Video</td>
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<td>Dec 1, 2016</td>
<td>Rough day eat this: 4 food items that help to relieve stress and shrink ur waistline</td>
<td>Article</td>
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<tr>
<td>3</td>
<td>Dec 12, 2016</td>
<td>Rough day eat this: 4 food that helps to relieve stress and shrink your waistline</td>
<td>Article (repeated)</td>
<td>Likes – 506, Reaction – 4 love, Shares – 101, Comment – 1</td>
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<td>55</td>
<td>Jan 30, 2017</td>
<td>&quot;I was trying to comprehend and understand that I wasn't evil, I wasn't lazy, I wasn't possessed, but that I have an illness. &quot; <a href="http://spr.ly/61828r">http://spr.ly/61828r</a> HZa I was forced to have an exorcism to cure my depression.</td>
<td>Article</td>
<td>Likes – 168, Reaction – 3 love, 4 wow, 1 laugh, 9 sad, 1 angry, Shares – 1, Comment – 6</td>
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<td>56</td>
<td>Dec 22, 2016</td>
<td>&quot;You aren't going to look like a supermodel afterward &quot;The Other Side of Weight Loss No One Talks About Even though Erika Schnure lost almost 100 pounds, she still wasn't satisfied with her body. Read why she fell into depression after her weight-loss journey.</td>
<td>Article</td>
<td>Likes – 323, Reaction – 7 love, 1 wow, 1 angry, Shares – 26, Comment – 9</td>
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### Appendix 1. Contd.

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<th>Reaction</th>
<th>Shares</th>
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<tr>
<td>57 Dec 20, 2016</td>
<td>Anxiety and depression, and brain health in general, are increasingly being linked to...</td>
<td><a href="http://spr.ly/61858MlBH">http://spr.ly/61858MlBH via Rodale Wellness</a></td>
<td>465</td>
<td>5 love, 3 wow</td>
<td>126</td>
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<tr>
<td>58 Dec 20, 2016</td>
<td>Stomach issues. Nausea, heartburn, constipation, and diarrhea have all been linked to depression:</td>
<td><a href="http://spr.ly/61818MdUN">http://spr.ly/61818MdUN via Prevention Magazine</a></td>
<td>408</td>
<td>1 love, 8 wow, 1 laugh, 20 sad</td>
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#### Women's health and fitness summit

<table>
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<th>Title</th>
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<th>Reaction</th>
<th>Shares</th>
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<tbody>
<tr>
<td>61 Dec 30, 2016</td>
<td>The way we train women is changing... Are YOU up to speed?</td>
<td>-</td>
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<tr>
<td>62 Dec 23, 2016</td>
<td>Confidant is a product that is designed to help with stress incontinence - this starter pack valued at $65 is today's #30prizesin30days</td>
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<tr>
<td>63 Dec 9, 2016</td>
<td>This year's WHFS theme is #BRAVE</td>
<td>-</td>
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<tr>
<td>64 Dec 3, 2016</td>
<td>Tone your body, lift your spirits.</td>
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#### Homeveda

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<td>65 Jan 4, 2017</td>
<td>Benefits of herbal bath salt:</td>
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<td>66 Dec 23, 2016</td>
<td>Reasons for dark circles: lack of sufficient sleep, aging, stress, lifestyle, un healthy diet plan (nutritional deficiency), dryness of skin under the eyes.</td>
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### Appendix 1. Contd.

<table>
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<th>Food groups to consume in #depression</th>
<th>Likes</th>
<th>Video</th>
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</table>
| Dec 18, 2016 | - Omega 3 fatty acids: Helps in proper functioning of brain  
- Vitamin B: These are essential for the functioning of the nervous system and also act as ‘anti-stress’ nutrients  
- Fibre: It keeps blood sugar under control and prevents mood swings  
- Foods rich in tryptophan: Helps to elevate mood |       |       |       |
| Dec 12, 2016 | Food groups to consume in anorexia:  
- Liquids: Help restore appetite  
- Vitamin B complex: Releases energy from carbohydrates and combats stress  
- Proteins: Build muscle mass  
- Vitamin A and C: Boost immunity  
- Iron: Replenish red blood cells  
- Calcium: Builds bone mass |       |       |       |