HUMAN AND SOCIAL SCIENCES IN FOOD
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Digital Marketing Cycle as a strategy to optimize communication of food- and nutrition-related information, on Facebook social media

Ciclo do Marketing Digital como estratégia para otimizar a comunicação de informações ligadas à alimentação e nutrição, na mídia social Facebook

Abstract

Introduction: Facebook is one of the most used social media in the world with an increasing number of health professionals and institutions that use it to promote health among users and for self-promotion, however, intuitively and without planning. ***Objective****:* The present study aimed at observing the impact of using the digital marketing tool, "Digital Marketing Cycle", to optimize the communication of food- and nutrition-related information on Facebook social media. ***Method:*** The metrics of publications (reach, likes on the page and on posts, clicks on posts, comments and sharing) made on the Dietécnica page on Facebook were monitored in two distinct moments; between 2013 and 2015, without the use of marketing tools, and between 2015 and 2017 with the use of the latter for planning, producing, executing and assessing conducts. ***Results:*** The use of the tool contributed to the optimization of the communication process of food- and nutrition-related information, as demonstrated by the increasing of its metric variables, such as reach. ***Conclusion:*** This strategy can put to use by health professionals and institutions that aim at effectively occupying this field of health. However, its use and of social media as a whole, must be carried out from a critical perspective over the impact on the process of communication in health as well as in society, and as a consequence in promoting health in the current scenario.

Keywords: Nutrition Science. Social Media. Marketing. Communication. Food and Nutrition Education.

Resumo

Introdução: O Facebook é uma das mídias digitais mais utilizadas no mundo, sendo crescente o número de profissionais e instituições da área da saúde que a utilizam para promoção da saúde e autopromoção, porém, de modo intuitivo e sem planejamento. ***Objetivo:*** O presente estudo objetivou observar o impacto do emprego da ferramenta de marketing digital, "Ciclo do Marketing Digital", em otimizar a comunicação de informações ligadas à alimentação e nutrição, na mídia social Facebook. ***Método:*** Foram acompanhadas as métricas (alcance, curtidas na página e em publicações, cliques em publicações, comentários e compartilhamentos) de publicações efetuadas na página Dietécnica no Facebook em dois períodos distintos; entre 2013 e 2015, sem uso de ferramentas de marketing, e entre 2015 e 2017, com uso da mesma para planejar, produzir, executar e avaliar condutas. ***Resultados:*** O emprego da ferramenta contribuiu para a otimização do processo de comunicação de informações relacionadas à alimentação e nutrição, demonstrados pelo incremento

de variáveis métricas, como alcance. ***Conclusão:*** Esta estratégia pode ser empregada por profissionais e instituições de saúde que buscam ocupar este ambiente para promoção da saúde de modo eficiente. Entretanto seu emprego, e das redes sociais como um todo, deve ser feito a partir do pensamento crítico quanto aos impactos que terá sobre o processo de comunicação em saúde e em sociedade, e como consequência para a promoção da saúde no cenário atual.

Palavras-chave: Ciências da Nutrição. Rede Social. Marketing. Comunicação. Educação Alimentar e Nutricional .

INTRODUCTION

Social media in the contemporary world

Social media are dynamic vehicles based on the internet or mobile devices to collaboratively spread content[1] and its use has significantly changed the way people communicate[2] as it grants users more power as it is disseminated,[3] which is different from what happens in traditional media.[4] Furthermore, they feature low cost and increasing accessibility as differential.[5-7]

Created in 2004, Facebook is considered to be one of the most used social media by individuals located in Brazil and in other countries.[8] It currently relies on the participation of over two billion users worldwide (2.7 billion) and among those, approximately 130 million are found in Brazil, the fourth country in number of users in the world.[9,10] Social media users, with Facebook, have the possibility of making contact with other users located in several parts of the world, building virtual interactive communities in constant modelling.[3,4,6] Social media may be employed as a promoting tool for sharing food- and nutrition-related information, which are to be received and processed, based on each individual's background knowledge, turning the field into something of significant scientific interest.[3,11,12]

This growing interest is also demonstrated by reputable health organizations, which are increasingly participating in this environment, aiming at establishing bonds,[5,13] discussing subjects of public interest,[3] and monitoring the occurrence of possible side effects.[14]

With regards to the communication of food- and nutrition-related information, it is socially acknowledged that not only health professionals feed this environment, but each and every person who wants to spread a particular content, regardless of the presence nor the absence of any conflicts of interest neither technical and scientific support.[3] Such context reinforces the importance of qualification of health professionals so that they fill this space in an organized and effective way, producing and sharing quality content, bringing benefits to the population.

Nevertheless, the occupation of social media by those professionals should not be carried out without proper planning, with the definition of an objective to be reached, acknowledging the features of the desired niche, its demands and which other similar sources of information they use. Therefore, it is important to take into account that the knowledge of Marketing is wide, with several methodological strategies; some of those, summarily developed for the offline environment (such as marketing plans, benchmarking, SWOT analysis, market segmentation, Marketing 4 Ps, etc.), and that adapted tools exist and that planning processes for the new context we find ourselves in are automatized (e.g. Google Analytics, Google Search Console, Google Tag Manager, RD Station, etc.), but require a substantial level of understanding, not only of Marketing theoretical basis, but also its structure and correct management.

Considering that the second option requires knowledge that it is not always available to health professionals, demand time for learning and further application, as well as financial resources, sometimes unavailable, the adaptation of traditional offline tools becomes interesting.

In this regard, there are methodological strategies that adapt the theoretical reference of offline tools to the online requirements, such as the Marketing Digital 8Ps and Digital Marketing Cycle.[15,16] They both incorporate techniques and principals that support the development of efficient digital marketing actions, through monitoring, measurement and enhancement of conducts, aiming the constant adaptation to the new demands.

Whereas the 8Ps of Digital Marketing, suggested by Conrado Adolpho Vaz[15] is a compound of the following steps "research", "planning", "production", "publishing", "promotion", "propagation", "personalization" and "precision". The Digital Marketing Cycle, suggested by Felipe Chibás Ortiz[16,17] is a compound of the following steps "research", "planning", "endomarketing", "mass e-mailing", "social media", "blogs", "other websites", "site/virtual store", "completion"

and "results". It should be noted that the latter gives the user freedom to choose which steps to take, as well as the sequence to follow, according to the context in which they are to be employed.

There are little studies that deliberate over the relationship between the employment of marketing methodological strategies to promote interventions in food and nutritional education. Among those few studies, some that analyzed the digital marketing strategy used by industries that promote the consume of alcoholic beverage with high energetic density,[18] the paradigms faced by children advertising control policies, discussing the harmful effects that publicity campaigns aimed at this audience can cause,[19,20] and the use of digital marketing paid tools (Google AdWords and Facebook Ads) to promote messages on healthy weight during pregnancy, are found.[21]

As well as knowledge about Marketing can be used to promote deleterious behaviors for health, they can and must be adapted to promote reflection and stimulus for beneficial behavior for health, whether in a physical or a virtual environment. However, the understanding of the usability of methodological strategies of digital marketing to improve the communication of information regarding food and nutrition through social media by health professionals is also scarce. As mentioned before, academic projects that have analyzed a similar strategy to communicate food- and nutrition-related information organically, through social media, are scarce. Therefore, the present study aimed at observing the impact of the use of a digital marketing tool, "Digital Marketing Cycle", to optimize the communication of food- and nutrition-related information on Facebook.

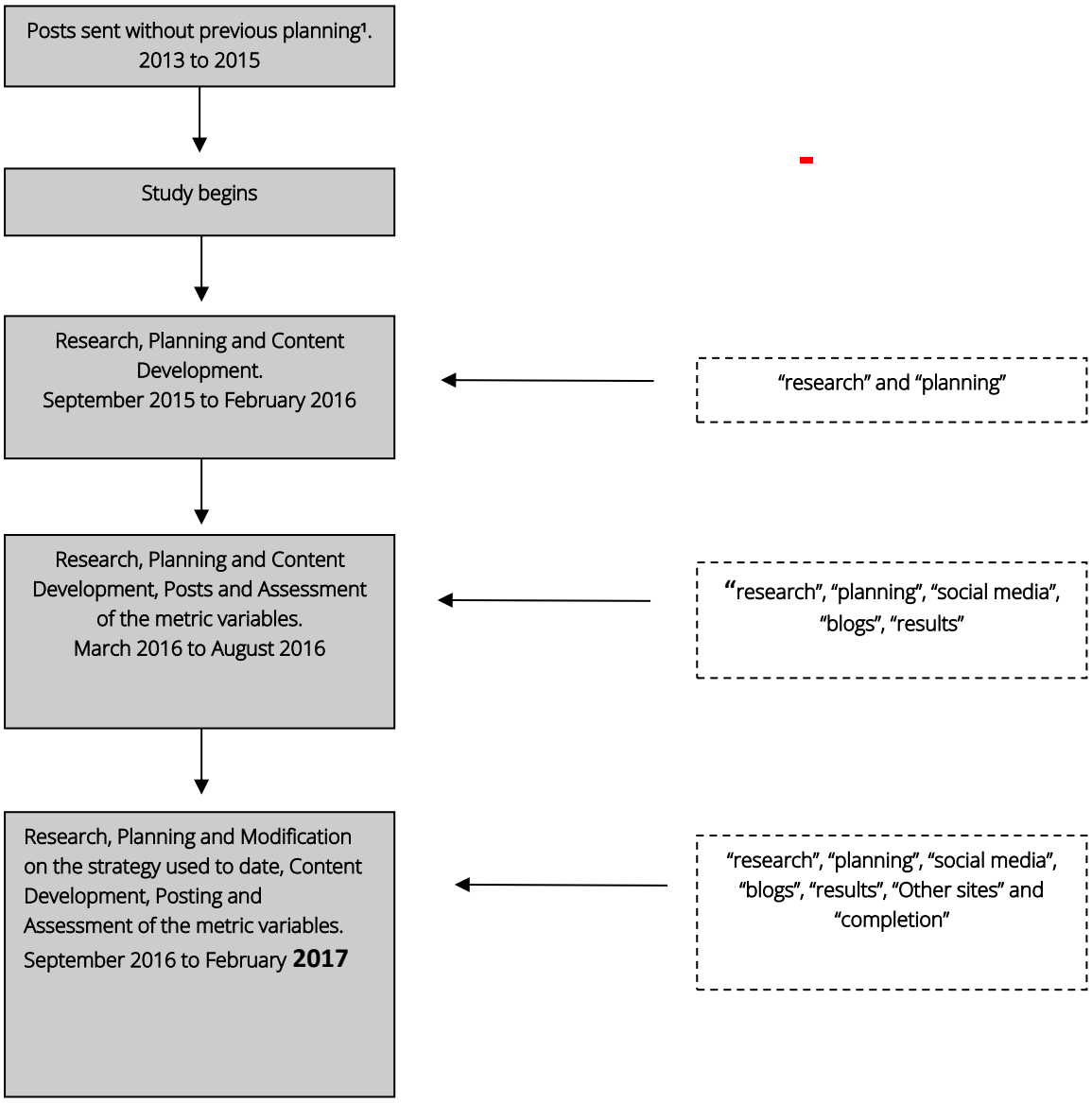
METHOD

A study that was carried out from a methodological approach description of a survey on the use of the digital marketing strategy, Digital Marketing Cycle and on the metric variables of the Dietécnica page on Facebook. Two periods were compared: On the first, publications were made without previous planning, and the other with the application of the aforementioned strategy. The latter was chosen as it provides greater flexibility for its use, following the moment it had been deployed, without fulfilling its initial purpose of enabling the proper management of the social media.[16] The adequate management of the social media is reached via the concatenation of ideas and the elaboration and the structuring of the communicative purpose in an orderly and coherent manner, in order to achieve the initial aim, which is to optimize the communication process through the social media in study.

The study drew on Dietécnica page, established in the middle of 2013, stemming from a University extension project, alongside a didactic laboratory (Técnica Dietética) from a Brazilian public University. The page aimed at being a guiding device for promoting nutrition and food content to graduation students within this field. There had not been previous planning on how to use Dietécnica's page, when it was created (sequence of posts, format, themes, schedule, assessment of the communicative process) by the study groups, since it was not exactly a demand of the project at that point.

The Digital Marketing Cycle was initially used with the employment of the "research" and "planning" steps, where all the metric variables (reach, likes on the page, likes on posts, comments and sharing) made available by Facebook for each post, since the first one, have been tabulated. During this process, the hitherto content, its frequency and schedule have been observed. In parallel, the frequency of publication and themes which resulted in considerable engagement between followers and external pages, presenting similar purposes. Some insights on content have been drawn from those pages and further developed for the Dietécnica`s page. This evaluation occurred between September 2015 and February 2016 (Figure 1).

Figure 1. Workflow for the activities that were carried out throughout the study.



With such information, it was decided to develop content in the form of theoretical texts, curiosities, suggested reading and the seasonality of fruits and greens. It was decided to post at night in order to reach more followers and to share them on the blog that carries the same name, hosted at Blogger. The "research" and "planning" steps were used throughout the entire period since the social media user's behavior as well as the compelling themes alternate between each other constantly. The so-called "social media", "blogs" and "results" steps were also used on that period, which corresponded to the months of March and August 2016 (Figure 1).

The metric variables of each post, executed between March and August 2016, were compared, in order to identify which format generated greater engagement among the followers within that period and how the features of the posts with greater response could be reproduced to optimize the reach.

The analysis had led to modifications on the way the content was published between September 2016 and February 2017 (Figure 1), aiming at improving the engagement and efficiency of the page in reaching out new and

former followers, as well as at enhancing the process of communicating nutritional information. Through those months, the steps "research", "planning", "social media", "blogs", "results", "outros sites" and "completion" were used.

All the metric variables of each post have been tabulated and analyzed via Excel and via the software R version 3.6.2: the Shapiro-Wilk test and the Mann-Whitney test, to $p<0,05$.

RESULTS

With all data collected, between September 2015 and February 2016, it was observed that within the period where there was no planning on how the page was going to be managed, there was no pattern within the posts. Among those, the posts which dealt with practical analyses, developed in the laboratory, drew more engagement and, therefore, should continue to be developed.

It was decided to deal with subjects, such as differences and similarities between allergies and food intolerance, seasonality of fruits and greens as an influencing factor on the management of the environmental impact caused by its production, as well as the benefits from the low cost of production and marketing, in addition to content related to seasonal holidays and trend topics within that period.

After the planning step, the content posting started in March 2016, when the posts were uploaded twice a week, at night. The identity of the page has been built from the use of standardized diagrams (format, color pallet, shapes, etc.) immediately recognized by the viewers, even if the content was not read at first (Figure 2).

Figure 2. Example of an image that was used to promote the content on social media, between March 2016 and August 2016.

SUGGESTED READING – ARTICLE

The Preparation Technical Form as a Tool for Quality in Producing Meals

Akutsu RC, Bitelho RA, Camargo EB, Sávio KEO, Araújo WC

Dietécnica
Transforming Product in Food

the end of the first period in which Digital Marketing Cycle was used, there was a significant decrease in numbers of the comments and clicks on posts, whereas there was an increase in the other metrics. Among the presented variables, it should be stressed that the increasing reach of the posts is an important marker for the intervention`s performance, as by the rules of Facebook is gauged for only 28 days, while the other are susceptible to an increase in the long term (Table 1). Therefore, whereas the reach was gauged for 28 days, regardless of the posting period, the other variables continued to be gauged throughout the weeks, which correspond to each analyzed period (between the establishment and February 2016 (128 weeks), March and August 2016 (26 weeks), and between September 2016 and February 2017 (26 weeks)). Such increase indicates that even with an initial use of the tool, there was an increase in the variables.

Table 1. Simple sum of the metric variables of Dietécnica`s Facebook page with or without the Marketing tool. Brazil. 2013-2017.

	Without Digital Marketing Cycle	With Digital Marketing Cycle		
		Step II	Step III	p[1]
Number of posts	38	52	52	-
Number of active weeks	128	26	26	-
Likes on Page	2 750	34	874	-
Likes on posts	298	613	1 160	0.048
Reach	6 422	18 427	46 049	<0.001
Sharing	61	72	155	0.7124
Comments	26	22	114	0.1159
Clicks on Posts	1 094	864	2 564	0.4214

[1] Difference from periods with and without the use of Digital Marketing Cycle, according to the Mann-Whitney test.

Aiming at widening the observation scenario, it was decided to hone conducts that might have contributed for the increment of the readers` engagement (Step III). For that reason, the frequency of the posts was kept, as well as their schedule; on the other hand, the production of a series of videos was inserted within the content, which had as their core, the presentation and explication of topics related to dietetics techniques, such as pigmentation of greens and gluten formation. In parallel, the identity pattern of the page was updated, testing different combinations of color pallets (Figure 3), and presenting content in a more dynamic way, betting on GIFs. Such modifications resulted in the enhancement of all the analyzed metrics, not only with regards to the period in which there was not strategic planning, but also, from the initial period since the implementation of the tool (Table 1).

Figure 3. Example of an image that was used to promote the content on social media, between September 2016 and February 2017.

READING TIP

"Nutrition with Flavour: Feeding Knowledge and Health"

Dietécnica
Transforming Product in Food

When considering the number of pots involved in each step, it is noted that higher frequency in shorter periods of time increased the number of likes and the reach of the posts (between March 2016 and August 2016), which increased over the time when the strategy was kept constant (September 2016 a February 2017). The constancy of the actions tends to influence the increase in all variables when compared to the periods in which the tool was used (Table 2).

Table 2. Average of the metric variables of Dietécnica`s Facebook page, according to the number of posts and steps of the Digital Marketing Cycle. Brazil. 2013-2017.

	Without Digital Marketing Cycle	With Digital Marketing Cycle	
		Step II	Step III
Likes on Page	72.37	0.65	16.81
Likes on posts	7.84	11.79	22.31
Reach	169.00	354.37	885.56
Sharing	1.61	1.38	2.98
Comments	0.68	0.42	2.19
Clicks on Posts	28.79	16.62	49.31

Taking into account the way the metric variables behaved, controlling their occurrence and the number of weeks in which the page was kept active, the impact of planning and the consistency of the conducts on such variables is way more visible and consequently, the capacity of promoting the readers engagement (Table 3).

Table 3. Average of the metric variables of Dietécnica`s Facebook page, according to the weeks when the page was active and the steps of the Digital Marketing Cycle. Brazil. 2013-2017.

	Without Digital Marketing Cycle	With Digital Marketing Cycle	
		Step II	Step III
Likes on Page	21.48	1.31	33.62
Likes on posts	2.33	23.58	44.62
Reach	50.17	708.73	1771.12
Sharing	0.48	2.77	5.96
Comments	0.20	0.85	4.38
Clicks on Posts	8.55	33.23	98.62

Shapiro Wilk's normality test has shown that the variables present a non-parametric distribution, and when evaluated by Mann-Whitney test, they indicated a significant statistic difference regarding "reach" ($p<0.001$) and "likes" ($p = 0.048$), within the period in which the posts were made without planning and with the employment of the Marketing Cycle.

Considering that the initial purpose of the page was to develop content to graduation students in nutrition, an invitation to know about the page had been made, via the corporative bulletin, and in interactive message boards located in places of easy access within the institution's premises. Even with the attempt of directing the content to its targets, there had been a larger occurrence of interactions from the population in general.

DISCUSSION

There are many factors to be considered and worked on in order to succeed in sharing reliable and quality content, such as the complexity of planning strategies to foster a continuous communication in an attractive way.[14] Such challenge was successfully mastered in the present project, resulting in two central outcomes. The first one, connected to the significant increment of the metric variables' "reach" and "likes on posts" stemming from the

employment of a digital marketing tool de digital marketing, which contributed to optimize the execution and intervention planning. Whereas the second, related to the comprehensiveness of the reach of the proposition to beyond the graduation students in nutrition, the initial target audience. Reinforcing the relevance of the employment of tools that contribute to enhance the action planning process carried out within this context, which allows better organization and exposure of ideas, giving a new meaning to the search for visual aids and the development of creative elements that can draw the audience's attention.

The use of social media to communicate nutrition information had been carried out in previous projects, which noted the popular preference for having access to those made available by health professionals.[22,23] Ensure quality and consequently contribute to promote health through the promotion of individual autonomy when in contact with new content is still a challenge, especially in a moment when we experiment an increase in the volume of fake news broadcast through that media. In parallel, there are digital influencers acting as protagonists within this space, but unfortunately, only few of them present referenced and quality content. It is, therefore, essential that a health professional fill that space and interact with users, to better understand and find strategies that contribute to a conjoint combat of this, still underestimated, social phenomenon.[24,25]

The number of users connected to social media, such as Facebook, is on the rise, as well as the number of health professionals and institutions, occupying those spaces to promote da health. Regardless of the starting point, many of them use social media intuitively, without planning previously on how to build the communication process with their target audience, which negatively contributes for the expected success.[26] The present study emphasizes how such affirmation is legitimate.

Initially, the act of communicating information related to nutrition in a non-planned way generated interaction among users. However, with the input of Digital Marketing Cycle to plan on how the page would be used, made a big difference, highlighted by the gradual increase in the sum and also in the average of the analyzed metric variables, especially likes on posts and reach. Throughout the study, there was a small reduction in the number of comments when the simple sum of the variable was analyzed, as well as when analyzed according to the number of posts. Similar reduction was presented by Richter et al.,[27] when considering that posts that were made by hospitals generated comments in only 27% of the publications; therefore, being something to be considered during the planning of future interventions. Notwithstanding, it is important to consider that this is a category of engagement that demands more time and availability from the reader, when compared to the act of liking or sharing.

Besides the challenge of producing content that is attractive to the community eye, it is paramount that the content be attractive enough to "break" the barrier built by Facebook's algorithm. Those algorithms have a preference for presenting content that is similar to what users search or follow on their accounts. At the same time, the platform incentivizes the boosting of paid publications (Facebook Ads), in which the same algorithm distributes the content in a more effective way, according to the target audience that is selected at the moment of the purchase, as well as by the characteristics of the page.

A practical example of how this barrier works can be observed in a study by Graham et al.,[21] which used *Facebook Ads* to promote messages about healthy weight gain during pregnancy. For this purpose, images related to the theme were promoted in the platform in three cycles of eight weeks. In every new cycle, two new pictures were used, each one with a caption that led the user to another platform. Every day of promoting posts cost to the study Can$26,00. By the end of the period, the posts reached 72.263 users, from which 14.482 clicked on the link in the caption. Therefore, even though the organic reach of Dietécnica's page has been inferior to that study, if the constancy of the posts and adaptations were kept, we can estimate that similar reach would have been achieved for free in the next period. This observation reinforces the viability of the use of the platform, free of cost, obtaining similar performance.

As well as it occurs with actions taken in a physical environment, when developing an intervention in a virtual environment it is fundamental to observe the importance of planning the production of compelling content,[1,28] which contribute to the perception of both individual and collective influence [29] of individuals who stop being simply spectators to become content disseminators that live together in an environment of constant development.[30]

Observing how users reacted to every new content and format presented, has contributed to the improvement of conducts and for the materialization of modifications that comply with core purpose. The intuitive use may, mindlessly, disguise the importance of being aware of what happens on social media, among users of a particular page and the context they live in.

The present study confirmed that the use of the methodological strategy called Digital Marketing Cycle can be employed to enhance the process of communicating food- and nutrition-related information, and it was effective in improving the reach of the information to the general public. It is necessary, however, to foster reflection upon the indiscriminate use of social media to communicate information in a global context, including information related to food and nutrition.

When working with production of content to social media, such as Facebook, Instagram and Twitter, it is paramount to consider that users of such media search for concise content and that led them to the core message in a matter of seconds. Otherwise, they lose interest and move on to the next post. This characteristic may stem from the transformations in living in society, which daily searches for "solutions" to make their daily routines quicker and more practical, very often in an immediate manner. However, this practice may ultimately, restrain the production of content to the number of characters available, and to the selection of the ideal wording, "triggers" that catch the reader's attention, so they feel compelled to click on the link with full information. Such restrain implies (or not so much) that there is no room for long content in this environment.

This context is extremely problematic, and its reflection is essential to a better understanding of the current scenario and its implications. When producing content, the aim is to convey a message that provokes reflection, and from the background knowledge and experiences of each reader, promote further development and assimilation of the proposed discourse. The components that form the learning assimilation are not taken into account, sometimes, during the production of content for social media, leading to fragmentation and weakening of the communication between author and interlocutor, weakening the communication purpose with the society. Notwithstanding, the standardization of this context, in a positivist way, tends to condition us to a new reality, where possible benefits and hazards to the assimilation and learning processes, and consequently the promotion of health, were not measured yet, albeit deserving special attention.

CONCLUSION

The employment of Digital Marketing Cycle contributed to optimize the use of Facebook in an orderly and fruitful way, aiming at promoting health in current days. The constancy of the conducts taken throughout the periods in which the tool has been employed, positively contributed to a significant increment of the evaluated metric variables; being "reach" and "likes" statistically different in the periods in study. Its use contributed to the fact that each action taken, a greater number of people were impacted by the quality, referenced information. This strategy might be employed by health professionals and institutions in search of filling this space and efficiently promote health. Nonetheless, it is necessary to critically reflect upon the path that is more commonly adopted, in order to reach a larger number of users, without necessarily convert this reach in concrete and deep learning, likewise fragmented. Further studies must assess the effectivity of similar interventions in promoting modification of behaviors, thoughts and knowledge.

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Contributors

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