Evaluating the Presence of Hospitals on Social Media: An Analytical Study of Private and Public Hospital Instagram Accounts in the State of Kuwait

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ABSTRACT

Today, adults are using social media to seek health information. Evidence suggests that hospitals using Instagram reported better patient engagement and in turn increased profit and reputation. Yet, little is known about how public and private hospitals are leveraging Instagram. This study aims to analyze the presence of hospitals on Instagram using Kuwait as a case study. Hospitals were identified using the Ministry of Health’s website and Instagram. Posts collected from seven odd months were analyzed using the Constant Comparison method. A total of 3,439 posts were distributed across six categories: health advice and education, operations and services, current events, hospital community, seasonal occasions, and trivia. Public and private hospitals differed in their activity on Instagram in terms of health topics covered, post categories, and interactions. Hospitals should improve their presence on Instagram to promote healthy lifestyles, augment public health campaigns, and be a source of reliable and accessible health information online.

KEYWORDS
Consumer Health Informatics, Hospitals, Instagram, Kuwait, Public Health, Social Media

INTRODUCTION

Social media platforms have grown rapidly in the past few years, making them a convenient and accessible channel to communicate and engage with the general public (Misra & Such, 2016). The use of social media has expanded to a myriad of domains, including healthcare (Mariano et al., 2018), with evidence of positive effects in sharing and discussing health knowledge between clinicians and patients (Kamel Boulos et al., 2016). Hospitals using social media have reported better communication and engagement with patients as well as increased profitability and improved reputation (Griffis et al., 2014; Klassen et al., 2018; Martinez-Millana et al., 2017; Ramkumar et al., 2018).

Today, nearly 91% of adults use social media (Fan & Gordon, 2014) for many purposes, including seeking health information (Van de Belt et al., 2012). This increasing usage, across demographics, has raised the importance of care quality perceptions using social media through better understanding patient experiences and improved engagement (Rozenblum et al., 2017). Many patients use social
media as an empowerment tool for psychological and subjective well-being, and social support for illness and self-management and care (Hanson et al., 2014; Smajlodzic et al., 2016). Moreover, social media can help catalyze and extend the reach of public health campaigns due to its pervasiveness and feasibility (Gough et al., 2017) in spreading health advice, events, and information (Hart et al., 2016). Recent evidence suggests that health behaviors can be changed and influenced by social media like weight control and healthy lifestyle adoption (An et al., 2017; Laranjo et al., 2015; Maher et al., 2015). The use of social media through sharing patient experiences, communicating health tips, and sharing the latest scientific research findings has made a positive impact on interventions for chronic diseases such as diabetes (Alanzi, 2018; Gabarron et al., 2018) and cancer (Attai et al., 2015; Pope et al., 2019; Xu et al., 2016).

Over the last few decades, the population has increased in the Arab region to approximately 360 million by mid-2015 and could be reaching 400 million by now (Hillman & Baydoun, 2018). Social media usage in the Arab region continues to grow rapidly, influencing governments’ practices, societies, and economies to interact effectively (Salem, 2017). The oil-rich State of Kuwait, an Arab nation, continues to rank among the top countries in the use of social media. In the State of Kuwait alone, approximately 360 thousand users were reported to use the platform, and this number continues to rise (Salem, 2017). This study focuses on Kuwait as a case study.

Instagram, a popular social media platform developed in 2010, is one of the most popular applications growing rapidly with more than 1 billion monthly users (Al Nashmi, 2018; Kang & Wei, 2019; Kim & Kim, 2018; Lee et al., 2015). Due to Instagram’s ability to reach many users from diverse backgrounds (Kamel Boulos et al., 2016), it can be utilized to enhance health education, raise awareness, and expand public health outreach (Gauthier & Spence, 2015; Hindman et al., 2017). Today, Instagram is also used by many health organizations, including the World Health Organization (WHO), the US Centers for Disease Control and Prevention, to spread important public health messages that educate and benefit the general public, and for risk communication during public health crises and disasters (Kamel Boulos et al., 2016).

Instagram has been used to serve many health-related purposes (Muralidhara & Paul, 2018), such as increasing the adherence to diabetes treatment in adolescents (Yi-Frazier et al., 2015), raising awareness, providing education about infectious diseases (Gauthier & Spence, 2015), and visually educating healthcare professionals on anatomy (Douglas et al., 2019) as well as pediatric radiology (Ranginwala & Towbin, 2018). Other studies examined how Instagram was used to monitor drug-drug Interactions and adverse drug reactions among general public users through complex network analysis of user timelines on the platform (Correia et al., 2016). Using Instagram, healthcare organizations and professionals can improve their direct engagement with consumers and share reliable and accurate information, which in turn, will positively affect patients’ behaviors and enhance patients’ education (İlgün & Uğurluoglu, 2019).

Despite the pervasiveness of Instagram as a social media platform, little is known about how hospitals are leveraging it to engage consumers and patients. Using Kuwait as a case study, the purpose of this research is to: (i) analyze the use of hospitals on Instagram according to content and interactions, (ii) uncover the differences between private and public hospitals in their use of Instagram, and (iii) provide recommendations to help hospitals improve their presence on Instagram and enable better public health interactions online.

To our knowledge, no prior study addressed this gap. The evidence from this research can help inform administrators and policymakers better align hospitals’ presence on social media (i.e. Instagram) and seize the opportunity to better engage with consumers and patients as well as promote health via large virtual public spaces. The findings could also be useful for countries with similar populations, healthcare systems, cultures, and health challenges (e.g. countries of the Gulf Cooperation Council – Kuwait, Bahrain, Oman, Qatar, Saudi Arabia, and the United Arab Emirates).
METHODS

Context
Kuwait’s health system is divided into two main sectors: public and private (2006). Approximately 70% of the health services are offered by the public or government sector represented by the Ministry of Health (Alhuwail, 2019). Public health care services are provided across six health regions and segmented into three layers: primary, secondary, and tertiary care. The primary health centers are geographically distributed in nearly all residential areas across the nation. These centers provide basic primary care services and are the first gateway for patient referrals to the remainder of the health care system. Secondary care is provided by six general hospitals, while tertiary care is provided through different specialized and disease-focused hospitals and centers (Alhuwail, 2019). A compound measure was processed for classifying the hospitals in this study by their size: small hospitals have less than 150,000 outpatient visits, medium hospitals have 150,000 to 249,999 outpatient visits, and large hospitals have 250,000+ outpatient visits (Alhuwail, 2019; National Health Information Center, 2015).

Data Collection
Initially, the hospitals were identified through the Ministry of Health’s website in the State of Kuwait (National Health Information Center, 2015). Additional hospitals operating in Kuwait were identified using online searches as well as the search feature on Instagram. The hospitals were selected according to inclusion/exclusion criteria similar to another study (Hart et al., 2017); For hospitals to be included, they must be based in Kuwait and have an active Instagram account during the period of data collection. Hospitals that had a low number of posts (n<30) during the selected period were excluded from the study. Data was collected over a three-week period and covered each hospital account’s content on odd months from March 2018 to March 2019 to help manage the volume. For each included hospital, the date it started using Instagram, the number of posts it had, as well as the number of followers was collected. Additionally, screenshots of the top three most-liked and least-liked posts were captured for each month; these posts were used for analysis.

Data Analysis
A qualitative approach using the constant comparison method was used to analyze the posts manually by breaking down the data into convenient units (Hart et al., 2017). This method allowed the researchers to analyze the content of the hospital accounts to classify main concepts and investigate the interactions with the posts based on likes. Initially, the researchers analyzed the selected posts (most- and least-liked three posts for each month) individually. The researchers met regularly to discuss and compare their notes on the posts to determine the common themes and concepts provided through the hospitals’ accounts. These themes and concepts allowed the researchers to create broad categories of the posts based on their common relations and similarities. Additionally, the number of followers, number of posts, year of using Instagram, and post contents were examined to reveal the hospitals’ Instagram account typologies. The researchers resolved any differences via discussions followed by consensus.

RESULTS
Based on the inclusion and exclusion criteria, a total of 18 hospital accounts were identified. These accounts were divided into public (8) and private (10) hospitals. Most of the private hospitals started using Instagram in 2012 compared to public hospitals in 2014. Overall, a total of 3,439 posts were collected, with 686 posts associated with public hospitals and 2,753 posts associated with private hospitals. Refer to Table 1 for detailed demographic information about the hospitals as well as the total number of posts identified during the data collection period. Furthermore, the average number of likes for the most liked and least liked posts for each hospital per month is shown in Table A1 in the Appendix.
Comparing public and private hospitals in terms of posts per month, on average, public hospitals posted 57 posts/month compared to private hospitals, which posted 71 posts/month (Refer to Box 1).

The number of likes and followers in private hospitals exceeded those in public, despite the volume of outpatient visits. Refer to Figure 1 for an overview of hospitals’ interactions in terms of followers and likes on Instagram.

Box 1: Formula used to calculate the average number of posts per month

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\text{The average number of posts per month} = \frac{\sum \text{average posts per month per hospital category}}{\text{Total of average posts per month per category}}
\]

Public hospitals: \(\frac{686}{12} = 57 \text{ post / month}\)

Private hospitals: \(\frac{2,753}{39} = 71 \text{ post / month}\)

| Name | Size | Year Created | Total Followers | Posts Considered (Criteria Period) | Total Posts Since Creation |
|------|------|--------------|-----------------|-----------------------------------|---------------------------|
| PU-1 | M    | 2014         | 1,200           | 33                                | 125                       |
| PU-2 | M    | 2014         | 4,793           | 95                                | 652                       |
| PU-3 | L    | 2015         | 3,692           | 96                                | 693                       |
| PU-4 | L    | 2018         | 680             | 49                                | 57                        |
| PU-5 | L    | 2017         | 1,372           | 254                               | 447                       |
| PU-6 | S    | 2015         | 910             | 60                                | 165                       |
| PU-7 | M    | 2017         | 2,905           | 73                                | 176                       |
| PU-8 | M    | 2017         | 351             | 26                                | 63                        |
| PR-9 | S    | 2012         | 8,473           | 50                                | 1,252                     |
| PR-10| L    | 2017         | 5,691           | 138                               | 448                       |
| PR-11| S    | 2013         | 31,700          | 574                               | 4,778                     |
| PR-12| L    | 2014         | 6,447           | 224                               | 733                       |
| PR-13| M    | 2014         | 68,600          | 398                               | 2,916                     |
| PR-14| L    | 2012         | 32,000          | 349                               | 5,580                     |
| PR-15| S    | 2012         | 25,600          | 221                               | 2,943                     |
| PR-16| L    | 2013         | 21,000          | 510                               | 2,626                     |
| PR-17| S    | 2013         | 19,600          | 111                               | 2,606                     |
| PR-18| S    | 2014         | 10,300          | 178                               | 1,126                     |

Note: PU= Public, PR= Private, S= small, M= medium, L= large.
Post Categorization

After analyzing the data, six categories emerged based on posts’ contents as follow:

i. **Health advice and education** – this category is centered around advising and educating the followers about different aspects of public health, diseases, health promotion, and medical facts such as facts about heart disease, blood donation, food poisoning, cancer, and nutrition.

ii. **Operations and services** – this category encompass posts related to the hospital’s operations and marketing of the medical services provided by the hospital, such as information about physician’s specialization, health packages, medical facilities, and work schedules.

iii. **Current events** – this category is centered around the occurrence of the exhibitions, conferences, training, workshops, celebrations, medical awareness campaigns such as hands-only cardiopulmonary resuscitation (CPR).

iv. **Hospital community** – this category is concerned with posts related to the hospital’s community, which includes acknowledgments, announcements, congratulations, and condolences such as honoring staff members and offering condolences to staff members’ families.

v. **Seasonal occasions** – this category is focused on official events such as national holidays, or religious occasions such as Eid, the Islamic holiday.

vi. **Trivia** – this category is centered around trivia quizzes motivating followers to participate in health-related challenges to disseminate useful information.

For public hospitals, **operations, and services**, as well as **hospital community** categories, received, on average, the highest number of likes, respectively. On the other hand, the **health advice and education** category received, on average, the lowest number of likes (Table 2).
For private hospitals, hospital community, and Trivia categories received, on average, the highest number of likes, respectively. On the other hand, the health advice and education, as well as current events categories, received, on average, the lowest number of likes (Table 3).

### Table 2. The average likes for posts categories across public hospitals

| Categories                        | Total Number of Posts | Average Likes |
|-----------------------------------|-----------------------|---------------|
| Operations and services           | 39                    | 71            |
| Hospital community                | 38                    | 64            |
| Seasonal occasions                | 61                    | 61            |
| Current events                    | 75                    | 55            |
| Health advice and education       | 22                    | 38            |
| Trivia                            | -                     | -             |

### Table 3. The average of likes for posts categories across private hospitals

| Categories                        | Total Number of Posts | Average Likes |
|-----------------------------------|-----------------------|---------------|
| Hospital community                | 22                    | 232           |
| Trivia                            | 15                    | 103           |
| Operations and services           | 211                   | 100           |
| Seasonal occasions                | 38                    | 62            |
| Health advice and education       | 81                    | 61            |
| Current events                    | 31                    | 43            |

### Topical focus

#### Diseases
Public and private hospitals focused on different diseases in their posts. The most common diseases covered by both public and private hospitals are diabetes (n=11), colon cancer (n=8), heart disease (n=5), colon diseases (n=3), and respiratory diseases (n=3). Public hospitals were unique in sharing information about Duchenne muscular dystrophy and Osteoarthritis. On the other hand, private hospitals shared information on numerous other topics such as Prostate cancer, Glaucoma, Kidney disease, among many others. Refer to Figure 2 for an overview of the diseases and Table 4 for detailed information about the distribution and interactions (i.e. likes) per disease.

#### Health topics
The most common health topics mentioned by both public and private hospitals are public health (n=17), nutrition (n=15), medications (n=13), physical therapy (n=13), blood donation (n=6), internal diseases (n=4), and breastfeeding (n=4). Public hospitals uniquely shared posts about patient safety, food poisoning, and the safe use of antibiotics. Private hospitals, on the other hand, shared posts related to skin problems, In-vitro-Fertilization, Orthopedic surgery among many others. Refer to Figure 3 for an overview of the health topics mentioned and Table 5 for detailed information about the distribution and interactions (i.e. likes) per health topic.

### Typologies

Based on the collected and analyzed data from the hospitals’ posts, five typologies emerged as depicted in Figure 4. These typologies are presented below. For a more detailed view of the typologies per hospital, refer to Table A2 included in the appendix.
Table 4. Mentioned diseases and their interactions

| Diseases                  | Total Number of Posts | Average Likes |
|---------------------------|-----------------------|---------------|
| **Common (Public and Private)** |                       |               |
| Diabetes                  | 11                    | 46            |
| Colon cancer              | 8                     | 101           |
| Heart disease             | 5                     | 33            |
| Colon diseases            | 3                     | 89            |
| Respiratory disease       | 3                     | 140           |
| **Public**                |                       |               |
| Osteoarthritis of the knee| 1                     | 55            |
| Duchenne muscular dystrophy| 1                    | 20            |
| **Private**               |                       |               |
| Prostate cancer           | 8                     | 20            |
| Glaucoma                  | 3                     | 22            |
| Gallbladder               | 2                     | 19            |
| Cervical cancer           | 2                     | 75            |
| Kidney disease            | 2                     | 16            |
| Enuresis disease          | 1                     | 18            |
| Pressure disease          | 1                     | 27            |
| Obesity                   | 1                     | 16            |
| Breast tumors             | 1                     | 41            |
| Scoliosis                 | 1                     | 12            |
| Cleft lip                 | 1                     | 40            |
| Diarrhea                  | 1                     | 10            |
| Low back pain             | 1                     | 345           |
**Influence** - This typology divided hospitals’ accounts into three levels based on the number of followers: macro-influencers, micro-influencers, and nano-influencers. Overall, three hospitals were reported as macro-influencers having 31,000 followers and above. While three hospitals were reported as micro-influencers having a range of 12,000 to 30,000 followers. And twelve hospitals were reported as nano-influencers having 11,000 followers and below.

**Agility** - This typology divided hospitals’ accounts into three levels based on the number of the most and least liked posts: active, neutral, and idle. Eleven hospitals were reported as active, having a range of 34 to 42 posts. While six hospitals were reported as neutral, having a range of 19 to 33 posts. Only one hospital was reported as idle, having 18 posts and below.

**Adoption** - This typology divided hospitals’ accounts into three levels based on the year hospitals started using Instagram: early adopters, late majority, and laggards. Six hospitals were reported as early adopters that started using Instagram from 2010 to 2013; eleven hospitals were reported as the late majority started using Instagram from 2014 to 2017. And only one hospital was reported as laggard started using Instagram from 2018 and above.

**Content** - This typology divided hospitals’ accounts into two levels: basic and diverse based on the number of post categories for each hospital. Four hospitals were reported as basic containing (3-4) categories, while fourteen hospitals were reported as diverse containing (5-6) categories.

**Maturity** – This typology divided hospitals’ accounts into three levels based on the average weight of the previous typologies (influence, agility, adoption, and content); initial, managed, and defined. Five hospitals were reported as defined; twelve hospitals were reported as managed, and only one hospital was reported as initial.

**DISCUSSION**

**Principal Findings**

Instagram, as well as other social media platforms, provides a lucrative opportunity to reach consumers in a timely, economic, and efficient way (Grajales et al., 2014). Our study provides the first insights into the use and adoption of Instagram by public and private hospitals. The presence of Kuwaiti
hospitals continues to rise on Instagram as evident from the results. Since 2012, private hospitals started adopting Instagram followed by public hospitals in 2014. While the public healthcare sector dominates the provisioning of healthcare services in Kuwait, our results suggest that for-profit hospitals (private) were more active on social media than their not-for-profit (public) counterparts. This could be due to their strategy for reaching and attracting more followers, which can lead to generating more clients for the hospital (Smith, 2017).

Prior studies reported that some clinicians believe that social media can be particularly beneficial to improve patients’ access to healthcare information and resources, especially those living with chronic conditions or rare diseases (Ventola, 2014). Our results demonstrate that hospitals did leverage their Instagram accounts to promote and disseminate health information. However, the evidence

| Health topics                              | Total Number of Posts | Average Likes |
|--------------------------------------------|-----------------------|---------------|
| **Common (Public and Private)**            |                       |               |
| Public health (e.g. Hand hygiene and healthy sports) | 17                    | 48            |
| Nutrition                                  | 15                    | 43            |
| Medications                                | 13                    | 64            |
| Physical therapy                           | 13                    | 37            |
| Blood donation                             | 6                     | 82            |
| Internal diseases                          | 4                     | 57            |
| Breastfeeding                              | 4                     | 30            |
| **Public**                                 |                       |               |
| Poster day (health studies)                | 4                     | 32            |
| Patient safety                             | 3                     | 91            |
| Radiology                                  | 3                     | 77            |
| Safe use of antibiotics                    | 2                     | 76            |
| Food poisoning                             | 2                     | 39            |
| Electronic medical records                 | 1                     | 52            |
| **Private**                                |                       |               |
| Cosmetic surgery                           | 5                     | 36            |
| Skin problems                              | 5                     | 12            |
| In-vitro-Fertilization (IVF)               | 4                     | 99            |
| Orthopedic surgery                         | 3                     | 38            |
| Magnetic Resonance Imaging uses            | 2                     | 29            |
| Cardiopulmonary resuscitation (CPR)        | 2                     | 28            |
| Obesity-related interventions              | 4                     | 56            |
| Pregnant woman advice                      | 1                     | 113           |
| Cochlear implant                           | 1                     | 169           |
| Hysteroscopy                               | 1                     | 57            |
| Anesthesia                                 | 1                     | 63            |
| Excision of a rare tumor                   | 1                     | 199           |
from this study points out that the posts of the health education and advice category were the least liked. Considering the results, it is clear that the content, whether by disease or health topic, posted by public hospitals is less diverse than that shared by private hospitals. However, both public and private hospitals posted about the most common comorbidities and diseases prevalent in Kuwait (i.e. diabetes and cancer). Moreover, supporting medical information by evidence plays an important role in resisting inaccurate and incorrect information in the post’s content (Glover et al., 2015). Likewise, sharing important information with the public could be useful for managing and reducing health risks related to global health issues such as epidemiological diseases (Guidry et al., 2017).

Interactions and Engagements – “Likes” on Instagram are an important factor demonstrating users’ interactions and engagement with the posts (Jang et al., 2015; Thömmes & Hübner, 2018). While the number of outpatient visits in the public hospitals exceeded those in private hospitals, and as demonstrated by the results of this study, private hospitals exceeded public hospitals in the maturity levels. The results also demonstrate that public and private hospitals in Kuwait differed in the categories of posts that received the most and least likes. It seems that could be due to the profit-making nature of private hospitals that requires the marketing of the services provided by the hospital. On the other hand, since public hospitals operate as non-profitable institutions, their focus tends to lean more towards awareness campaigns and share current events. Interestingly, our analysis also revealed that posts with pictures of people in them got the highest likes in both private and public hospital accounts (Bakhshi et al., 2014). While it was not the focus of our study, it was noted that some comments in many posts were related to SPAM advertisements (e.g. marketing for dietary supplements).

Although the rate of outpatient visits of public hospitals exceeds the rate of outpatient visits of private hospitals, private hospitals are more active on Instagram than public hospitals regarding the total number of posts during the selected period. The interaction between private hospital accounts and other users is higher than in public hospitals according to the number of likes per post. As well as most private hospitals started using Instagram earlier than public ones. These comparisons may clarify that private hospitals pick up faster and use technology more and in the right way. Also, some public and private hospital accounts either have the lowest number of posts or no post shared at all in May, July and September; it seems this is due to these months may coincide with the summer vacation and special occasions as Ramadan and Eid.
The average number of likes and posts in the private hospital accounts exceeded the number of likes and posts in the public hospital accounts. This could be due to the number of followers of the private hospitals is much higher compared to the number of public hospital followers, even though the average size of the public hospitals is larger than the average size of the private hospitals. In this study, the size of the hospitals has no relation with the number of followers, posts, and likes, contrary to other studies that found that the size is related to the use of social media and the number of followers (Griffis et al., 2014; Smith, 2017). This could be the cause of the hospital’s interactions and adoption of Instagram.

**Diversity of Posts** – Despite the diversity of posts about diseases and health topics covered by both public and private hospital accounts, posts related to health advice and education were the least presented in public and private accounts. Private hospitals focused more on presenting better healthcare content than public accounts; even though most of the posts were in the least liked category, this could be due to better healthcare content could lead to happier and satisfied customers (Kamra et al., 2016), and social media users prefer posts with health content than advertisements (Martinez-Millana et al., 2017). Likes in the health advice and education category were more on posts with visual content compared to posts with text-only; this is potentially due to our brain’s trust in visual modalities over text (Pittman & Reich, 2016). Due to the high number of posts related to the operations and services category, future work will focus on specific topics such as plastic surgery.

The highest common disease mentioned in public and private hospital accounts was diabetes because Kuwait has the highest rates of diabetes in the world (Carballo et al., 2018). There is a lack of knowledge about major factors that causes diabetes. Most of the people in Kuwait have heard about diabetes as a disease caused by the family’s genetic history, while obesity, diet, stress, low exercise, and age are key factors for preventing and managing diabetes (Carballo et al., 2018). Therefore, educating people about this disease to improve diabetes knowledge, behaviors, and practices is important.

Kuwait is surrounded by countries that have a desert climate, with many dust storms occurring a year. Although the average hospital visits for respiratory diseases in Kuwait exceeded that for other diseases (Al-Hemoud et al., 2018), respiratory diseases had the lowest number of posts among the common diseases for public and private hospitals, yet, the most liked on average. On the other hand, the highest commonly mentioned health topic among public and private hospitals was public health (e.g. personal and hand hygiene). Educating people on public health topics will enhance public health awareness and reduce the spread of infectious diseases and other illnesses (Al-Rifaai et al., 2018).

**Typologies** – Influence, agility, content, and Instagram adoption are important factors that assessed hospitals’ maturity on Instagram, and they are complementary to each other. Although most of the hospitals were classified as active based on the number of posts, the majority of hospitals were non-influencers having few followers. This is a result of presenting basic content that focuses on specific post categories which likely did not attract the general public to follow the account. Moreover, the majority of hospitals were classified as the late majority with respect to their joining date on Instagram. This contributed to classifying most hospitals at the managed level. Overall, hospitals should devote their efforts to improve the content delivered on their Instagram accounts.

**Implications for Practice**

**Develop an institutional strategy** – Healthcare institutions, including hospitals, should carefully consider their social media presence and integrate it within their institutional communication strategy, as it has shown its beneficial impact on patients’ safety (Katrina C & Elliott R, 2019). It is essential to involve clinicians and public health professionals in the development of this strategy to ensure that the information provided to consumers is appropriate, timely, and accurate (Smith, 2017).

**Trusted and safe information** – Besides traditional approaches, social media could be a complementary data source that answers questions that may affect patient safety. For example, posts that share the side effects and use of over-the-counter medications and symptoms of some diseases and their treatments (Curtis et al., 2017). Hospital accounts on Instagram can be a trusted source of health information to many. Therefore, hospitals should consider hiring specialized staff or contract
with a certified company to run and monitor their Instagram accounts. The aim is to ensure that no false or harmful information is posted in the comments section of their posts since the hospital is considered a reliable source of health information (Alhuwail & Abdulsalam, 2019; Keenan et al., 2018).

**Engaging content** – Instagram should be an essential component of each hospitals’ public health engagement outreach efforts. Hospitals should leverage Instagram by posting visually engaging information (e.g. infographics) that makes complex health information more accessible and understandable for many users (Ahmed et al., 2016).

**Strengths and Limitations**

Our study included 18 hospitals out of Kuwait’s total of 30 hospitals; the remainder of hospitals not included in the study did not have an active account at the time of data collection. Although our findings were based on a limited timeframe consisting of 7 months, those months were selected throughout the year to cover the hospitals’ accounts in their active and idle periods. It was difficult to locate the official hospital accounts for public hospitals since many of them do not have a website. However, we employed a thorough search on Instagram to locate their account. Nonetheless, some hospital accounts may have been missed and therefore not included. Our comparisons and analysis were based on likes indicating users’ public interactions with posts, however, these likes do not represent those who interact with the content “offline” (i.e. saving or sharing the posts with others without liking them) (Klassen et al., 2018). Studies should investigate consumers’ viewpoints, needs, and preferences on using such social media platforms by hospitals. While analyzing hospitals’ presence on Instagram yielded rich evidence, it could be useful to include and analyze users’ engagement with hospital accounts on other social media platforms such as Twitter, Facebook, and YouTube. This study took a cross-sectional approach taking a snapshot of the past activity. Future efforts should consider creating a living atlas with dynamic date ranges and the ability to record and capture a hospital’s public posts.

**CONCLUSION**

The use of Instagram by hospitals in the State of Kuwait is growing year by year presenting the perfect opportunity for public health engagement directly with consumers. In this study, public and private hospitals showed different roles and practices in their use of Instagram. Public hospitals were less active than private hospitals and focused on events in their posts. On the other hand, private hospitals focused more on marketing their services. Enhancing hospitals’ social media presence can improve patient engagement. Hospitals should put more effort into reaching their consumers online to promote public health and living a positive and healthy lifestyle. It is time to seize the opportunity and leverage social media to augment public health campaigns and be a source of reliable and accessible health information online for all.

**CONFLICTS OF INTEREST**

None declared.

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AA: The author participated conceptualization of the research project, as well as its design and implementation. The author shared leadership in conducting the research tasks, including the evaluation of evidence, and participated in writing, reviewing, and revising the manuscript.

ZJ: The author participated conceptualization of the research project, as well as its design and implementation. The author shared leadership in conducting the research tasks, including the evaluation of evidence, and participated in writing, reviewing, and revising the manuscript.

DA: The author participated in the design and evaluation process. The author supervised the conceptualization of the research project, as well as its design and implementation. The author participated in the evaluation and participated in writing, reviewing, and revising the manuscript.

All authors have approved the final article.
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ENDNOTE

1 Ramadan refers to a month of fasting and prayer observed by Muslims. Eid refers to a religious holiday celebrated by Muslims.