

Teste Talk: A trial social media campaign to improve awareness of testicular torsion

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ABSTRACT

INTRODUCTION: Adolescent males are particularly prone to testicular torsion, often resulting in subsequent orchiectomy. A lack of knowledge about testicular pathologies, as well as hesitancy to discuss genital concerns, are fundamental, preventable barriers to early presentation. We hypothesized that a social media campaign to improve awareness of testicular torsion and other urological conditions affecting adolescents may overcome such barriers in this population.

METHODS: A social media campaign, "Teste Talk," was created and promoted on Instagram and Facebook. Data was collected from June 1 to December 1, 2021. Instagram followers, Facebook page likes, Instagram and Facebook reach, post likes, Instagram follower demographics, and advertisement data were reviewed. Data was collected using Meta Business Suite. Paid promotions to improve awareness of the campaign were targeted towards 13–18-year-old males in Alberta and were funded by the Undergraduate Research Initiative Support Fund.

RESULTS: The campaign reached 26 072 Instagram accounts and 14 741 Facebook accounts. The Instagram page amassed 382 followers, while the Facebook page accumulated 99 likes. Paid advertisements were seen 81 136 times on Instagram and Facebook. Instagram surveys demonstrated that over the study period, followers had an increased awareness of testicular torsion and how to recognize it. No patients presenting with torsion during the study period admitted to seeing the campaign.

CONCLUSIONS: Testicular torsion remains a significant issue among adolescent males, and creative ways to disseminate information and increase knowledge and conversations about testicular pathologies are needed. Social media campaigns present a potential pathway for increasing awareness and reducing delays to presentation and orchiectomies.

INTRODUCTION

Testicular torsion is a surgical emergency in which the spermatic cord rotates around itself, obstructing blood flow to and from the testicle. The yearly incidence of torsion has been estimated as 3.8 per 100 000 males under 18.¹ While testicular torsion can happen at any age, males aged 12–18 years are at the highest risk.²

The cause of testicular torsion is often unknown, but presence of a bell-clapper deformity has been identified as a risk factor.³ Orchiectomy is a common and unfortunate outcome of testicular torsion, with rates as high as 41.9%.¹ Testicular loss can cause significant psychosocial distress, particularly in young men, including feelings of loss, uneasiness, and shame about their bodies.⁴

The therapeutic window for testicular salvage has been postulated to be 4–6 hours from onset, with salvage rates as high as 80–100% if surgical detorsion occurs within this timeframe.⁵ Delay to surgical treatment that is longer than 24 hours increases rates of orchiectomy to over 90%.⁶

Minimizing delay to presentation is key to ensuring testicular salvage, and while many patients do present within the six-hour window, others present days after the initial onset of symptoms. Delayed time to surgery may be due to several reasons. Patients experiencing non-specific symptoms of torsion (e.g., abdominal pain, nausea, vomiting) may receive an incorrect diagnosis. Even if correctly diagnosed, patients presenting to peripheral family clinics or rural

KEY MESSAGES

- Orchiectomy is a common and unfortunate outcome of testicular torsion that results due to delayed presentation for treatment.
- A lack of knowledge about testicular pathologies, as well as hesitancy to discuss genital concerns, are fundamental, preventable barriers to early presentation.
- We hypothesized that a social media campaign to improve awareness of testicular torsion and other urological conditions affecting adolescents may overcome such barriers in this population.
- Teste Talk, a trial social media campaign, has reached more than 50 000 accounts on Instagram and Facebook, and advertisements have been seen by over 80 000 accounts.

emergency departments may require transfer. Previous studies have consistently demonstrated that both a lack of knowledge about testicular pathologies like torsion, as well as embarrassment to discuss these issues, contribute to delayed presentation.^{7,8} One study found that the overwhelming majority of parents are unaware of the causes and implications of acute scrotal pain, such as testicular torsion. Of the 34% of parents who were aware, they cited friends and family, the internet, or their family practitioner as the source of their knowledge.⁸ Because most adolescent males access health-care through their parents, this lack of knowledge in both groups represents a fundamental, preventable barrier to prompt presentation. Our study aimed to rectify this lack of knowledge through a targeted social media campaign directed at 13–18-year-old males in Alberta, Canada.

METHODS

Ethical approval for this study was obtained from the University of Alberta health research ethics board (ID: Proo00108948).

Prior to creating the targeted social media campaign, a slogan contest was hosted from May 17 to May 31, 2021. The contest was distributed to the University of Alberta Medical School class of 2024, as well as on personal social media pages, and asked respondents to

submit slogans and catchphrases for the social media account. Two winning slogans were chosen, and each winner was awarded a \$125.00 Amazon gift card. The social media campaign was created and promoted on Instagram (@testetalk.ab) and Facebook (Teste Talk) beginning June 1, 2021, and was targeted towards 13–18-year old males living in Alberta, Canada. Posting occurred twice weekly during this period on “Teste Tuesday” and “Story Saturday.” These were a combination of Instagram and Facebook posts directly to the social media feeds and interactive stories, including polls, true or false questions, multiple-choice quiz questions, and short-answer questions to assess viewers’ knowledge of testicular torsion.

Paid promotions to improve awareness of the campaign were funded by the Undergraduate Research Initiative Support Fund. Advertisements were created using the built-in function on the Instagram app and were shared to the audience group that targeted 13–18-year-old males living in Alberta, Canada. The cost of advertisements ranged from \$10–30 CAD.

A giveaway was held from September 23 to October 7, 2021, on Instagram to increase follower numbers. Accounts were required to like the Instagram post, follow the Instagram page, and tag an account in the comments. The winner of the giveaway was chosen on October 8, 2021, by random draw.

The Canadian Urological Association officially endorsed our campaign in January of 2022, which allowed us to use their corporate logo and promote through their Instagram page.

Data was collected and assessed using Meta Business Suite (formerly Facebook Business Suite) from June 1 to December 1, 2021. Information collected included: Instagram followers; Facebook page likes; paid advertisement reach (i.e., the number of unique accounts who saw a post at least once), impressions (i.e., the total number of times advertisements were viewed), and link clicks (i.e., the number of times an advertisement was clicked on to allow the viewer to view the whole post); total reach (i.e., the number of accounts who saw any content from the page, including posts, stories, and advertisements); post likes, comments, and shares; Instagram follower demographic data (i.e., sex, age range, location); cost per result (CPR); and frequency (i.e., the average number of times each person saw an advertisement).

RESULTS

The slogan contest received submissions from 16 individuals, accounting for a total of 64 slogan submissions.

Winning slogans were “Make the call instead of losing your ball,” and “Twist and shout.” These slogans were used regularly throughout the Facebook and Instagram page in order to create cohesive and recognizable messaging.

Demographic data of Instagram followers can be found in Table 1. The largest proportion of followers reside in Edmonton and surrounding area, with the next highest proportions residing in Calgary, Alberta, and Toronto, Ontario. The majority of followers live in Canada and the U.S. The largest proportion of followers are between the ages of 25–34.

Across the study period, Teste Talk amassed 382 Instagram followers, with a total reach of 30 655 unique accounts. The Instagram page was visited a total of 3488 times. Instagram stories reached 27 871 accounts and were liked and reacted to 57 times. When stickers (a feature of Instagram stories) were used, they generated 89 clicks. The Teste Talk Facebook page

amassed 99 Facebook page likes over the study period, reached 20 144 unique accounts, and was visited a total of 180 times. Across both platforms, posts were liked 1229 times, commented on 342 times, and shared 1087 times. Examples of posts used in the campaign are shown in Figure 1.

Informal surveys were regularly conducted on the Instagram page to assess knowledge in followers and provide further education. A summary of these surveys can be found in Table 2. One survey asked respondents if they knew what testicular torsion was, and if they knew the signs and symptoms. When the survey was initially conducted, most respondents did know what torsion was but did not know the signs and symptoms. When the survey of followers was repeated almost six months later, the percentage of respondents who knew the signs and symptoms of testicular torsion had nearly doubled.

In total, \$420.44 CAD was spent on 18 unique advertisements. Paid advertisements reached 29 970 accounts and generated 81 136 impressions. Links were clicked a total of 919 times. The average CPR was \$0.46. The most cost-effective post had a CPR of \$0.24, while the most expensive post had a CPR of \$2.08. The two most successful advertisements had a reach of 7424 and 6239 and generated impressions of 12 423 and 15 322, respectively. These advertisements had a CPR of \$0.32 and \$0.24. The advertisement with the highest frequency of views was 2.46, meaning that, on average, people saw that ad 2.46 times. The ad with the lowest frequency of views was 1.01. The mean frequency of views was 1.38 (n=16), with a median of 1.35. The Instagram giveaway generated 289 unique comments (entries) and 25 additional followers. The winner was given an \$80 CAD gift card of their choice.

Unfortunately, during the study period, none of the patients who presented to the Stollery Children's Hospital with testicular torsion admitted to having seen the campaign.

DISCUSSION

From June 1 to December 1, 2021, a social media campaign was evaluated for its ability to reach a target audience of 13–18-year-old males living in Alberta, Canada, with the goal of raising awareness of testicular torsion. The social media campaign amassed over 400 followers and reached over 50 000 accounts through posts and stories. Paid advertisements reached approximately 30 000 accounts and were viewed over 80 000 times.

Our results align with much of the literature on awareness of testicular torsion in this demographic

Table 1. Instagram follower demographics

Characteristic	Frequency (%)
Age group (years)	
13–17	5%
18–24	21%
25–34	39%
35–44	17%
45–54	9%
55–64	3%
65+	2%
Cities	
Edmonton	50%
Calgary	8%
Toronto	1%
Other	41%
Country	
Canada	81%
United States	6%
United Kingdom	3%
Other	10%
Gender	
Male	56%
Female	44%



Figure 1. Example Teste Talk posts.

group. A focus group of males aged 11–18 found that second to teaching in their school classrooms, social media was reported to be the most effective method of disseminating information about testicular torsion.⁹ While many studies discuss the importance of education in reducing rates of orchiectomy, we were unable to find literature that discusses the use of social media as a tool to disseminate information about testicular torsion.¹⁰ Patients and families are increasingly seeking healthcare information online, and are turning to platforms such as Instagram and Facebook more than ever before, with as many as 92.4% of parents stating that it is important for physicians to have an online social media presence.¹¹

We attempted many other avenues for promotion of our campaign, including parents' groups and local physicians with a large social media presence. Unfortunately, most of these required prohibitive fees for the project to be mentioned or followed. Local influencers, especially with a healthcare focus, remain an excellent resource and way to gain exposure to target markets; however, barriers to access are steep.

Strength and limitations

Our study has several strengths and limitations. A major strength of the study is the accessibility of the content for this age group. A study by Cheng et al looked at the use of social media in pediatric urology and found that there was more social media engagement when posts were not cited or linked back to a scientific article.¹² This demonstrates a need for information that is both factual and reliable, but also simple and easy to understand. Instagram, in particular, is an excellent platform for this, as posting on stories allows for small, easily digestible pieces of information to be shared frequently. Teens are increasingly accessing social media and the internet through their smartphones, with more

Poll question	Yes (% , n)	No (% , n)
June 5, 2021		
Do you know what testicular torsion is?	72% (34)	28% (13)
Do you know signs and symptoms of testicular torsion?	30% (13)	70% (31)
December 1, 2021		
Do you know what testicular torsion is?	77% (40)	23% (12)
Do you know signs and symptoms of testicular torsion?	58% (28)	42% (20)

than 70% of people ages 12–24 using Instagram.¹³ The built-in advertising feature that is shared across both platforms allows for specific targeting of user age group, sex, location, and even interests, making it easy to ensure the target demographic is being reached.

Another strength of our study is the use of polls to directly assess knowledge and understanding in our followers. This allowed us to tailor posts specifically to areas where our followers lacked knowledge, such as understanding the signs and symptoms of testicular torsion and what to do if torsion is suspected. By repeating the same polls at different time points across the study, we were able to approximately evaluate whether knowledge of torsion had decreased, stayed the same, or increased. The results indicated an increase in knowledge both in knowing what testicular torsion is, as well as how to identify it.

However, these surveys have obvious limitations in that respondents have the option to answer one question, both, or none at all, and those who answered the initial survey may be different from those who answered the followup survey. While it is useful to gauge the knowledge level of followers and engage

with them in an interactive way, it is difficult to use the data in a concrete way to demonstrate improved knowledge. An additional limitation to this study is that teens do not like discussing their testicles, especially on the internet. This likely stems from embarrassment and the private nature of the topic, as well as the public interface through which the discussion is occurring. The lack of discussion and engagement became obvious throughout the study and can be seen in the discrepancy between the number of times posts were viewed (impressions), which was 81 136, and the actions viewers took on posts (likes, comments, shares), which was 2658. This makes it difficult to determine if seeing Teste Talk posts led to improved awareness, knowledge, or behavioral changes at an individual level.

Further studies are needed to determine if the social media campaign has had a measurable impact on knowledge of testicular torsion and orchiectomy rates in the community.

Another limitation is that Instagram demographic data only delineates between male and female, and there is no way to confirm that the ages of viewers are correctly reported.

Our study was also limited in that majority of our followers fell outside of our target demographic group, with the highest proportion being 25–34-year-olds. A recent report by social media management company “Hootsuite” titled, “The Global State of Digital 2022,” found that 25–34-year-olds make up 31.5% of Instagram users worldwide, making this group the largest proportion of users. Conversely, 13–17-year-olds made up one of the smallest proportions of Instagram users, at only 8.5%.¹⁴ This makes it statistically more likely that followers of our Instagram page would fall outside of our target demographic and would instead be in the 25–34-year-old age group. We attempted to overcome this limitation specifically by targeting 13–18-year-old males in our advertised posts, where we chose to only show advertisements to accounts that had reported their age within that range.

One potential benefit to having a large proportion of followers in older demographic groups is that they are more likely to be parents whose children represent the target demographic we are trying to reach, which is a group that future studies should attempt to target for educational campaigns. Parents are generally more difficult to target because they are a very heterogeneous group in comparison to adolescents affected by testicular torsion; however, there is value nonetheless in a campaign specifically for them.

A limitation to using both Facebook and Instagram as a way to disseminate health information for adolescents is that they must be 13 years old to sign up for an account and access the platforms. There is likely benefit in educating males younger than the age of 13 about testicular torsion, and while it does occur less often in younger age groups, orchiectomy rates are higher.¹ This is likely owing to a more atypical presentation in this group, as well as a lack of knowledge.¹⁵ This further supports the need for early education and targeting future campaigns to younger age groups. One strategy that should be considered in the future is to partner with education ministries and school boards to integrate campaigns into the health curriculum and promote education campaigns through these classes. This could also help reach younger demographics, as most health classes begin in elementary school.

This study was also limited to a six-month period, and further evaluation is needed after more time has elapsed.

A final limitation to this study is that we were not able to determine if the social media campaign had a measurable impact on orchiectomy rates or time to presentation in the community. We are prospectively gathering data to assess this for a future study.

CONCLUSIONS

Social media campaigns are a useful tool in disseminating information about acute urological conditions to teenage males, as well as reducing the stigma of discussing genital concerns. Results of this study indicate a need for increased campaigns to improve public awareness of testicular torsion. Further studies should be conducted to evaluate the effectiveness of social media campaigns at reducing delays to presentation and orchiectomy rates secondary to testicular torsion.

COMPETING INTERESTS: The authors do not report any competing personal or financial interests related to this work.

This paper has been peer-reviewed.

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