AN ANALYSIS ON THE ANTI-VACCINATION MOVEMENT IN TURKISH DIGITAL PLATFORMS: EKŞİSÖZLÜK AND FACEBOOK

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Abstract

The anti-vaccination movement turned into a public health problem also in Turkey. This paper analyzes the vaccine-related posts of one of the anti-vaccination group on Facebook. The group was selected as a "purposive sample". Also, vaccine-related entries from EkşiSözlük, one of Turkey's most popular collaborative hypertext dictionaries, were analyzed. The study aimed to find out if digital social media in Turkey were the main hub for the anti-vaccination movement, as this is the case in several countries, while also aiming to find out the motivations of anti-vaxxers. The Thematic Content Analysis (TCA) of Facebook messages and EkşiSözlük entries showed that Facebook appeared as a platform used more by anti-vaccination, mostly religious anti-vaccination groups for disseminating their ideas. In contrast, very few anti-vaxxer messages were seen on EkşiSözlük, used by more secular and usually educated people. It was seen that anti-vaxxers were motivated by postmodern allegedly "scientific" and religious arguments, both of which are often shaped by conspiracy thinking.

Key words: Turkey, public health, anti-vaccination, religion, thematic content analysis, digital social media, Facebook, EkşiSözlük.

TÜRK DİJİTAL PLATFORMLARINDA AŞI KARŞITI HAREKETİN ANALİZİ: EKŞİSÖZLÜK VE FACEBOOK ÖRNEĞİ

Aşı karşıtı hareket Türkiye'de bir halk sağlığı sorununa dönüşmüştür. Bu araştırmada aşı karşıtı hareketin dijital medyadaki yansımasından bir kesit sunulmaktadır. Bir sosyal medya uygulaması olan Facebook ve bir hipertext sözlük olan Ekşisözlük'ten amaçsal örneklem yöntemiyle seçilen iki grupta yapılmış olan aşı hakkındaki paylaşımlar analiz edilmiştir. Araştırma, dijital sosyal medyanın birçok ülkede olduğu gibi Türkiye'de de aşı karşıtı hareketin asıl yuvası olup olmadığına bakarken, aynı zamanda aşı karşıtlığının hangi motivasyonlara sahip olduğunu göstermeyi amaçlamaktadır. EkşiSözlük girişlerine ve Facebook paylaşımlarına yapılan Tematik İçerik Analizi, Facebook'un daha çok aşı karşıtları ve özellikle dindar aşı karşıtlarının düşüncelerini yaymak için kullandıkları bir platform olduğunu; daha seküler ve eğitimli kesimlerce kullanılan EkşiSözlük'te ise aşı karşıtlığının daha az görüldüğünü göstermiştir. Aşı karşıtlarının motivasyonlarının çoğunlukla sözde "bilimsel" postmodern ve dinsel değerlendirmeler olduğu ve her iki kesimde de komplocu düşüncenin hakim olduğu görülmüştür.

Anahtar kelimeler: Türkiye, halk sağlığı, aşı-karşıtlığı, din, tematik içerik analizi, dijital sosyal medya, Facebook, EkşiSözlük.

Introduction

Vaccination around the world has eliminated most of the highly fatal diseases during the last century (1). However, an anti-vaccine movement has been present since vaccines were developed (2). According to the Vaccine Hesitancy Group that founded by the World Health Organization, vaccine hesitancy refers to hesitation in accepting or refusing vaccines despite vaccine services availability. It is complex and context-specific, and it modifies across time, place and vaccines. Additionally, it is affected by circumstances such as complacency, convenience and confidence (26). On the other hand, vaccine rejection is the state of refusing and not having all vaccinations of the person's own free will (27).

In recent years, the anti-vaccination movement is thriving all around the world and becoming a public health problem. Turkey is not an exception. This study traces the anti-vaccination movement in two Turkish digital platforms and tries to portray the anti-vaccination mindsets in Turkish society. It also explores the motivations of anti-vaxxers, whether it be religious or secular postmodern.

The literature demonstrates that digital social media, online information, and communication were a larger platform in the spreading of anti-vaccination sentiments (3-5). In the case of Turkey, we agree with the conclusion of Bean (6) that "Anti-vaccination websites appeal to persons searching the Internet for vaccine information that reinforces their prediction to avoid vaccination for themselves and their children." As it is in other countries (6-12), it seemed that in Turkey too, social media served as an "effective hub of distributing anti-vaccination information designed to encourage grassroots resistance" (8).

Results of the Turkey Survey revealed on March 3rd 2020 (13), demonstrated that even at a time when coronavirus was leading to a global fear and panic, 44.2 percent of all participants said they would not get vaccinated if a coronavirus vaccine was found.

The data from the last decade demonstrate that the proportion of fully immunized children were decreasing and totally disappeared diseases such as measles were returning along with regularly increasing vaccine rejection in Turkey (14-17).

Recognizing that vaccine rejection was turning into a public health threat for Turkish society and being aware of the few studies which showed that conventional media were not supporting anti-vaccination attitudes (18,19), this paper reviews the anti-vaccination messages in EkşiSözlük and Facebook for a descriptive analysis of the anti-vaccination movement.

EkşiSözlük was founded in 1999 as a digital dictionary where dictionary writers could anonymously share their feelings and thoughts on any topic. The dictionary has 119,087 authors and thousands of entries on thousands of themes.

Methodology

Using a Thematic Content Analysis (TCA), we traced the anti-vaccination movement in EkşiSözlük (a Turkish collaborative hypertext "dictionary" based on the concept of Websites built upon user contribution) and Facebook. From EkşiSözlük, the most used entry "I am not

obliged to be vaccinated movement" (aşı yaptırmaya mecbur değilim hareketi) and from Facebook, the most obvious anti-vaccine group named "Vaccine Movement and Awareness Raising Platform" (Aşı Hareketi ve Bilinçlendirme Platformu), were chosen for a qualitative descriptive analysis as purposive samples.

After determining the messages and entries to be investigated in detail, we developed three main categories: "Pro-vaccination", "Neutral", and "Anti-vaccination". For each main category, we then used certain sub-codes: "Pro-vaccination": (cure for infectious diseases/heal non-infectious diseases/ national vaccines/halal vaccines); "Neutral": (respectful/hesitant); "Anti-vaccination": (unsafe/dangerous) (see Tables 1, 2).

In EkşiSözlük, from January 2011 to September 2019, 1574 comments were found under the entry "I am not obliged to be vaccinated movement", and a TCA was made using the above categories. The search in EkşiSözlük was started in January 2011, because the impact of the anti-vaccination movement began to be felt in that year.

In Facebook, a group named "Vaccine Movement and Awareness Raising Platform", which was opened in January 2013 and is followed by 7502 users, had 38 posts in the form of photographs with 188 comments to those posts until September 2019. Therefore, the analysis period for Facebook was from January 2013 to September 2019.

Ethics committee approval is not required as public data were used in the study.

TCA of EkşiSözlük and Facebook Comments

In EkşiSözlük, there were 162 pages under the entry "I am not obliged to be vaccinated," which included 1574 comments. 58 of those comments were "irrelevant". 1408 of them were advocating the necessity of getting vaccinated, including 20 comments for vaccination with the precondition of it being "national", i.e. being produced by Turkey. 61 comments, which put forward "scientific" reasons, were against vaccination. In the 47 comments under the "Neutral" category, there were 30 "respectful" and 17 "hesitant" comments.

On the other hand, in Facebook, comments were analysed in the "Vaccine Movement and Awareness Raising Platform," which had 7502 followers. In the Platform, 38 "Anti-vaccination" posts in the form of photographs were shared, and 188 comments were made under them, including 138 "Anti-vaccination", 10 "Neutral" and 40 "Pro-vaccination".

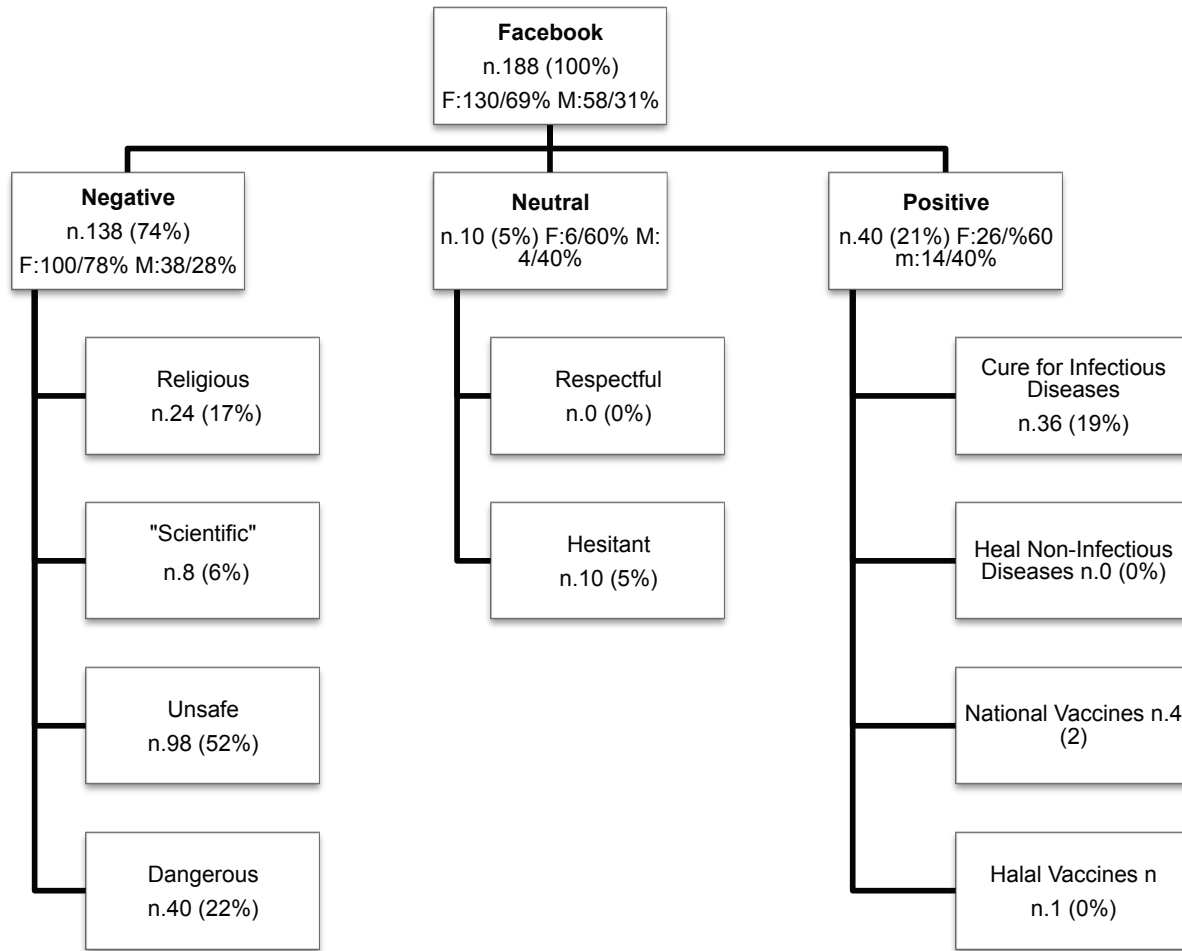**Table 1:** TCA of 'I am not obliged to be vaccinated' entry in EkşiSözlük between 2011-2019.
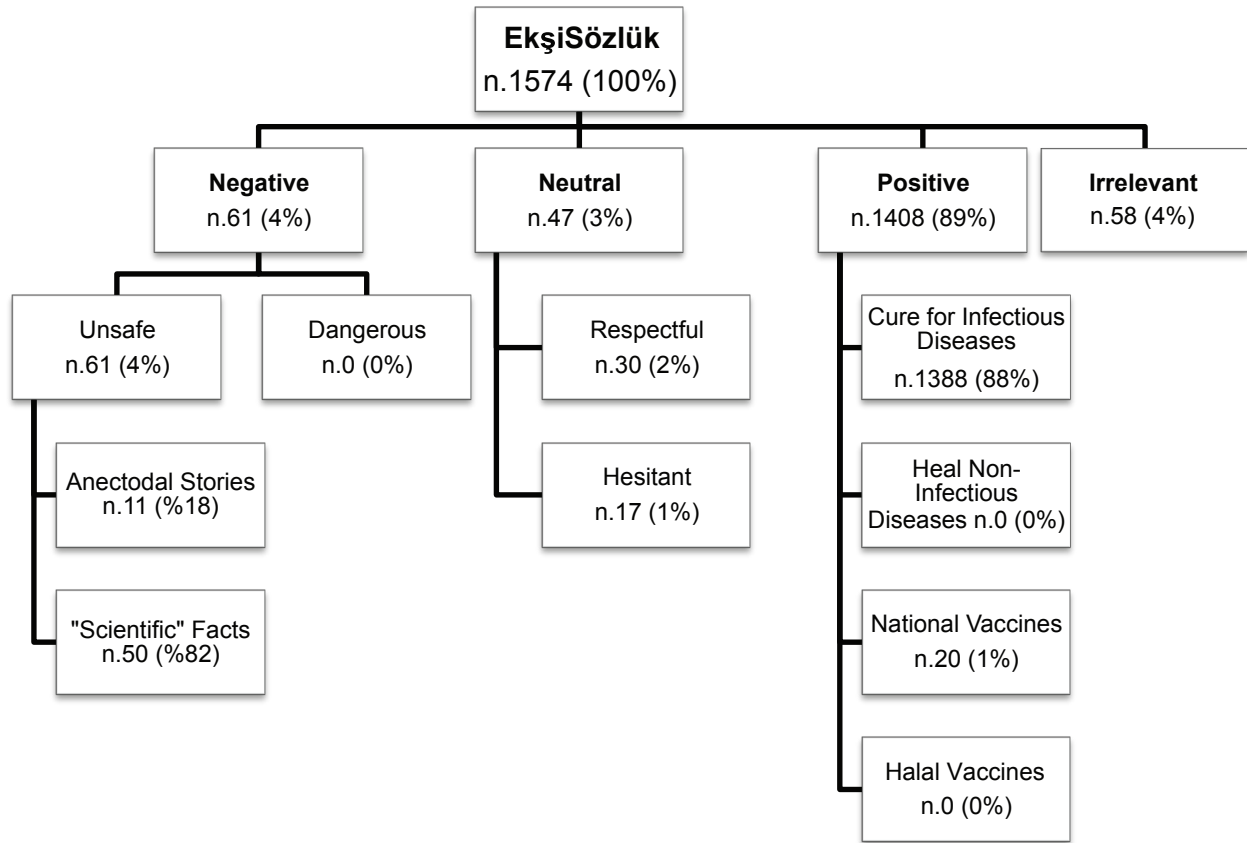
The 40 "Pro-Vaccination" comments included 4 comments which were in favor of the precondition of the vaccines being national. All of the 10 "Neutral" comments were "hesitant". The "Anti-vaccination" category included 98 "unsafe" and 40 "dangerous" comments.

It is also seen that Facebook closed many groups which were obviously anti-vaccination by their names, such as the group "I am not obliged to be vaccinated movement", which had 13,000 followers. The groups which were still open had names which were not as obviously anti-vaccination as the one analysed.

Table 2: TCA of Facebook group named 'Vaccine Movement and Awareness Raising Platform' between 2013-2019.


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                        ┌─────────────────────┐
                        │      Facebook       │
                        │    n.188 (100%)     │
                        │ F:130/69% M:58/31%  │
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Negative n.138 (74%) F:100/78% M:38/28%	Neutral n.10 (5%) F:6/60% M:4/40%	Positive n.40 (21%) F:26/%60 m:14/40%
Religious n.24 (17%)	Respectful n.0 (0%)	Cure for Infectious Diseases n.36 (19%)
"Scientific" n.8 (6%)	Hesitant n.10 (5%)	Heal Non-Infectious Diseases n.0 (0%)
Unsafe n.98 (52%)		National Vaccines n.4 (2)
Dangerous n.40 (22%)		Halal Vaccines n n.1 (0%)

Discussion of The Anti-Vaccination Movement Comments in EkşiSözlük and On Facebook

The literature on the coverage of vaccination in media demonstrates that "public voicing of anti-vaccination sentiments is larger in digital social media than in traditional media", and "a reasonable explanation could be that newspapers are written mainly by journalists trained to keep the principle of accuracy" (20). Social media is becoming a more and more popular source of health information in general and of vaccination information in particular. There were studies demonstrating that the majority of vaccination messages in digital social media (Twitter or Facebook) were positive in some countries and negative in some others while very high percentages of them were neutral (10-12).

In the years between 2011 and 2019, under the title "I am not obliged to be vaccinated," we found 1574 comments, 1408 (89%) of which were "Pro-vaccination". In those comments, writers were expressing ideas in favor of human immunization via vaccines. There were also negative comments against vaccination, but only 4% of the total (n=61).

These negative arguments on vaccination were generally (52%) stating allegedly "scientific reasons," stressing that vaccines were harmful to human health. One of those comments says;

"Vaccines are great dangers to health. I think there must be such an anti-vaccination movement. Those who do not believe that vaccines cause permanent damage to the human body should make an investigation of related sources. Of course, if you go and get this information from scientific journals and media organs that are controlled by the pharmaceutical industry, you cannot find the truth".

As mentioned above, in the EkşiSözlük platform, there were 61 "Anti-vaccination" comments and they differ from the Facebook "Anti-vaccination" comments with 32 of them trying to base their arguments on allegedly "scientific" facts. EkşiSözlük writers and followers are generally accepted to be younger and more educated which becomes obvious with their more "scientific" references compared to Facebook "Anti-vaccination" commenters when they give links to English language articles, news reports and documentaries, etc. They often underlined that they were able to make deeper and further research about the "real truth" about vaccines, thanks to their knowledge of a foreign language. Such references could not be seen in the Facebook group.

In their analysis of the print media, television and radio messages Catalan-Matamoros, et al. (21 p97) said that the anti-immunization messages focused on tragic personal stories, while "positive messages about vaccines rely on authoritative institutional voices". This is also true for Turkish social media messages.

We found many personal tragic stories on Facebook among the "Anti-vaccination" comments but they were fewer in EkşiSözlük, being 11 anecdotal stories (18%). As an example;

"I was against those who defended this idea (anti-vaccination), until I saw with my own eyes that a world beauty 25-months-old baby Belinay who had autism after getting the 18th-month vaccine. The mother showed with documents that even the doctor accepted it."

In EkşiSözlük, there were 47 (3%) "Neutral" comments, which were sub-categorized as 17 "hesitant" and 30 "respectful". 58 comments, which were not related to the subject, were separated as "unrelated".

We could deduce that there were several "Anti-vaccination" comments with radically religious (Islamist) content but could not be read because the administrators of the website had erased them. Obviously, administrators of the dictionary, who had a "Pro-vaccination" perspective, were trying to prevent the spread of "Anti-vaccination" attitudes via their platform.

When it comes to Facebook, we found that several anti-vaccination groups were closed but some were still open. Therefore, the Facebook group, which had 7,502 followers but not an open anti-vaccination name, "Vaccine Movement and Awareness Raising Platform", was chosen for analysis. The platform had 38 posts disseminating anti-vaccination ideas. The followers of the platform wrote 188 comments to those posts, 138 of them supported rejecting vaccination.

From those 188 comments, 10 comments (5%) were "Neutral" and all listed within the "hesitant" sub-category. 40 comments (21%) were in favor of vaccination, disagreeing with the hegemonic discourse in the group. 1 of those 40 was in favor with the precondition of the vaccine being "halal" (lawful by Islam) and 4 others with the

precondition of being "national".

With 74% (n=138), the majority of the comments were against vaccinations with religious and pseudo-scientific arguments. The "Anti-vaccination" category included 98 "unsafe" (52%) and 40 "dangerous" (22%) comments.

Some followers built a pseudo-scientific relationship between vaccination and autism. One of them wrote, "I condemn these food terrorists who have made our children autistic, who have destroyed our conscience trying to animalize us...". Most of the people wrote personal stories about themselves or their children or a close relative who developed certain diseases after getting vaccinated. Here is an example: "My son is eight years old, but he is like a 2-year-old child. He cannot speak; he is diapered... How naive I was when getting him vaccinated."

Opposing vaccines for religious reasons was also much more apparent on Facebook. There were 24 (17%) comments that were clearly defending "Anti-vaccination" associated with Islam. One follower wrote; "Did my Lord create us incomplete? Why do we need vaccines? My Lord does not say that humans are deficient in any of his verses. … ." Another one said, "I am against vaccination. There is something called the immune system, what is the vaccine? The God's system does not need anything like vaccination. Is there any vaccine in nature?".

Despite the obvious religious rejection of vaccination on Facebook, unlike EkşiSözlük, there were not any examples of "scientific" comments. The references here were more to Koran and religious authorities and sheiks.

It can be said that anti-vaxxers have found freer space on Facebook to more easily disseminate and discuss their ideas when compared to EkşiSözlük. It can also be said that religious objection to vaccination was much more obvious on Facebook compared to EkşiSözlük, which is a much smaller website with a control mechanism by users and administrators who delete anti-vaxxer discourses.

We also wanted to see if the interest in vaccination was gender based, as the literature suggests and with the assumption in mind that women, more specifically mothers were dominant in deciding about vaccination. Thus, it was observed that 130 of the 188 total comments in the "Vaccine Movement and Awareness Raising Platform" (69.15 %) on Facebook came from women. Since the writers of EkşiSözlük were all using nicknames it was not possible to understand if they were male or female. As Durboch wrote (22 p60), historically vaccination was "a mothers' question" and the comments on Facebook indicated that Turkey is in line with this.

Facebook, too, creates limitations on the expression of ideas by anti-vaxxer movements, and they removed anti-vaxxer's coronavirus videos during the pandemic (23), yet their nested structure in form of groups gives anti-vaxxers the possibility to more easily exist in such a platform.

Conclusions

An overview of EkşiSözlük and Facebook shows that neither of these platforms were predominantly spreading anti-vaccination ideas. However, the analysis of the anti-vaccination messages in EkşiSözlük and on Facebook supports the evaluations pointing out that two groups were influencing the rejection of vaccination; "One is religious groups, saying it is a

'sin'; the other are the postmodernists raising doubts about the trustfulness of vaccines" (24).

Based on the findings, we can argue that anti-vaccine discourses are threefold: Firstly, "rumours" that vaccines could cause autism. This so-called scientific autism-vaccine relationship, against which also Turkish medical circles are campaigning (25), is an argument often used by secular postmodernist anti-vaxxers.

Secondly, questioning the pharmaceutical industry as a critique of capitalism. Both secular and religious sides have claimed that the pharmaceutical industry aims at profit-oriented production of vaccines/medicines while not caring for public health. Conspiracy-style thinking, is most common in this group.

Thirdly, there is a line of religious rejection of vaccines, which was relatively more obvious on the Facebook anti-vaccination platform. Conspiracy-style thinking is also here mostly in the form of presenting vaccines as a plan of the West and "capitalist medicine" aiming to lead to infertility in Muslim societies. Not to interfere with God's decisions and vaccines having ingredients forbidden by Islam (haram) such as materials from pigs, were two other common arguments of this group. The findings of this research point to the need for further research focusing on religiousness and attitudes toward vaccination.

As stated by Smith and Graham (8); "The anti-vaccination movement is now primarily led by women. (…) Given the gendered nature of participants on anti-vaccination pages, (…) the anti-vaccination movement is a significantly 'feminised' social phenomena, although the issue it addresses is not gender specific." Since approximately 69 percent of the comments in the anti-vaccination Facebook group we studied came from women, we can say that the Turkish anti-vaccination movement is also "feminised". However, the women expressing and exchanging ideas on Facebook were mostly urban women, so further research is needed to learn the vaccination attitudes of women living in rural areas.

Digital social media were not a major source of disseminating "anti-vaccination" ideas. Thus, we assume that anti-vaccination groups form their own communities with their own communication and interaction networks. Further research is needed to determine the anti-vaccination communities, their communication networks, and their religious or secular influences.

Limitations

The study covers two purposively selected samples; the most used vaccine related entry from EkşiSözlük and the most obvious anti-vaccine group from Facebook. For a representative study of anti-vaccine movement in digital social media a broad scaled sample design would be needed.

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