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Vaccine Rejection Reasons and the Role of Digital Media and Word of Mouth: Do Income and Education Level Matter?

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Research Article

Abstract

The main aim of the research is to uncover the reasons behind parents vaccine rejection. Additionally, the secondary goal is to determine whether there are differences in the role of word-of-mouth communication and media based on income and education levels. In line with the objective, a questionnaire was conducted on 122 parents living in Aksaray province who refused to have their babies/children vaccinated in the year 2022. According to the results, individuals who refused vaccination had a middle to high level of education and income. It was found that all of the vaccine refusers thought that vaccines were not safe, more than 75% said that someone else said they were not safe, and more than 25% were influenced by digital media. Chi-square analysis results indicate that there is a statistically significant difference in the role of negative reports from the media and negative word of mouth influencing parents vaccine rejection in terms of income and education levels.

Keywords

Vaccine Rejection
Word of Mouth,
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Aşı Reddi Sebepleri ve Dijital Medya ve Ağızdan Ağıza İletişimin Rolü: Gelir ve Eğitim Seviyesi Önemli mi?

Öz

Araştırmanın temel amacı ebeveynlerin aşı reddinde bulunma sebeplerini ortaya koymaktır. Ayrıca gelir ve eğitim seviyesi itibariyle ağızdan ağıza iletişim ve medyanın etkisinde farklılaşma olup olmadığını tespit etmek ikincil amaçtır. Amaç doğrultusunda Aksaray ilinde yaşayan ve 2022 yılında bebeklerine/çocuklarına aşı uygulamalarını reddeden 122 ebeveyn üzerinde anket uygulanmıştır. Sonuçlara göre aşı reddinde bulunan bireylerin eğitim durumunun ve gelir seviyesinin orta-yüksek olduğu görülmüştür. Aşı reddedenlerin tamamının aşıların güvenli olmadığını düşündükleri, %75'ten fazlasının bir başkasının güvenli olmadığını söylediği, %25'ten fazlasının dijital medyadan etkilendikleri tespit edilmiştir. Ki-kare analizi sonuçları, ebeveynlerin aşı reddini etkileyen medyadaki olumsuz haberlerin ve olumsuz ağızdan ağıza iletişimin rolünde gelir ve eğitim düzeyleri açısından istatistiksel olarak anlamlı bir fark olduğunu göstermektedir.

Anahtar Kelimeler

Aşı Reddi,
Ağızdan Ağıza İletişim,
Dijital Medya,
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Introduction

A vaccine is a biological product developed by eliminating the disease-causing properties of viruses, bacteria, or other microorganisms that can cause disease in humans and animals, or by neutralizing the effects of certain toxins produced by microorganisms. The body recognizes the weakened microbes or toxins it has acquired from the outside and forms a defense system to fight against them, thus gaining immunity against the disease (Aşı Portalı, 2023).

The immune system is weak in newborns, children, and the elderly. In children, the immune system only develops fully up to the age of six. Therefore, individuals in infancy/childhood are more prone to getting infected. Vaccination prevents viral and infection-related diseases in infants, children, and adults, and it is also easy to administer. Ensuring immunity is also highly important for the preservation and improvement of public health (Argüt, Yetim and Gökçay: 2016).

In cases of vaccine rejection, the high risk of disease becomes apparent, and the significant role of vaccines in disease prevention soon becomes a priority factor for parents to have their children vaccinated (Rosenstock, Derryberry and Carriger: 1959). Furthermore, it has been determined that parents being knowledgeable about vaccination during infancy and childhood, along with having a higher level of education, is of great importance in understanding the significance and seriousness of the matter and increasing vaccination rates (Yiğitalp and Ertem: 2008). As a result of previous studies, it was observed that the vaccination process was decided based on factors related to the infant/child (illness, premature birth, etc.), the perspective or knowledge of the parents, the socio-demographic status of the parents and their satisfaction with the health services (Dombkowski, Lantz and Freed: 2004; Fadnes et al., 2011).

The negative perspective of parents towards vaccination has been attributed to factors such as ignorance or misinformation about the preventive nature of vaccines against diseases, concerns about vaccine side effects, lack of trust in vaccine content, the belief that vaccines are not beneficial, or the belief that they may cause long-term health issues. Additionally, previous negative experiences with healthcare services have played a role (Özkan and Çatıker: 2006).

Digitalization is having a stronger impact on the purchasing decision process of consumers every day. In the marketing literature, the impact of digitalization and word of mouth communication on consumer behavior has been examined from various perspectives multiple times. However, limited studies addressing the impact of media and word of mouth communication on healthcare services consumption. It has been pointed out that word of mouth communication is one of the most important factors influencing the decision-making process in healthcare services to understand the preferences of consumers whose pre-purchase experience is limited to the services they receive (East, Hammond and Wright: 2007; Yorulmaz and Kuşcu: 2023).

According to the definition made by the World Health Organization (WHO), a vaccine is expressed as a 'biological product that enhances immunity against a specific disease. However, there are individuals today who refuse to use this product considered important for health. Moreover, in recent times, among parents, there were also noticeable shares related to vaccine rejection for their babies and/or children in digital media. Based on the gap in the literature, this study aims to determine the reasons for vaccine rejection in infants and children and to determine whether there are differences in the impact of word of mouth communication and digital media among parents who refuse vaccination, based on their education level and income status.

1. History of Vaccination and Vaccine Rejection

The history of vaccination dates back to ancient times. During the Ottoman Empire, it was understood that samples obtained from the skin cells of those infected with the chickenpox virus were dried and vaccinated by applying them to the scratches opened on the skin of people who had not previously had this disease. Vaccine laboratories were established for the first time in 1885 in the Ottoman Period. In the Republic era, vaccine production was centralized in one place at the Hıfzıssıhha Institute, which was established in 1928. In 1974, the World Health Organization aimed to immunize newborns according to a vaccination schedule before they reach one year of age with the Expanded Programme on Immunization (EPI) (Aşı Rehberi, 2018).

In vaccine rejection, an individual has the right to choose not to receive all vaccines of their own free will. Vaccine rejection movements started in the mid-19th century and have continued to the present day. Although there has been an increase in education, information, and technological advancements in the 20th century, negative perspectives on vaccines and vaccine rejection movements have persisted. The emergence of hesitations and debates is due to the mistrust that has arisen regarding vaccines. First of all, in the 1970s, international anti-vaccination sentiment emerged concerning the safety of diphtheria, pertussis, and tetanus vaccines. Subsequently, in 1998, allegations were made by Andrew Wakefield in The Lancet journal that measles, rubella, and mumps vaccines could be linked to autism. These studies, which were covered in the press, increased fear, and when these studies were on the agenda through the media, people's confusion and insecurity increased (Yavuz, 2018).

2. Word of Mouth Communication

Word of mouth communication is when a consumer independently exchanges information about a particular product or service with their distant or close circle, separate from the producer (Ennew, Banerjee and Li: 2000). In this communication, consumers convey their experiences about a product or service to other consumers and influence them positively or negatively about that product or service (Yakın, 2011). In word of mouth communication, individuals tend to rely more on the experiences of those who have previously experienced a product or service, rather than reading and researching about it, placing greater trust in their experiences (Silverman, 2001). Word of mouth communication, as a result of consumers' experiences, can influence their purchasing decisions by sharing their experiences with others through face-to-face meetings, over the phone, or via the internet (Gün, 2020).

The fact that health care is a personal and private service makes trust, personal recommendations, and advice more important. Consumers need word of mouth marketing and recommendations to find competent doctors and healthcare professionals more than in other sectors (Uzunal and Uydacı: 2010).

There is intensive information sharing in the process of purchasing healthcare services. A patient who is satisfied with the services provided in a hospital can later return to the same hospital when they need healthcare services and can recommend the hospital to others in their circle (Şener and Behdioğlu: 2014). In the field of healthcare, word of mouth communication is also very common. Healthcare service consumers can use a medication they hear about or see from their surroundings without a doctor's prescription, or even if a doctor has prescribed it, they may refuse to use that medication or treatment if they hear from someone in their circle who has used it and was not satisfied.

Due to the importance of services offered in the healthcare sector, the healthcare industry is suitable for word of mouth marketing. As the information in the field becomes more subjective and the potential risks increase, there is a greater need for word of mouth marketing (Öz and Uyar: 2014). In the context of healthcare service marketing, it has been determined that word of mouth communication has a greater impact on consumers' purchasing decisions (Öz, 2016).

Today, vaccine refusals still occur for a variety of reasons, and both the media and word of mouth are driving parents who are undecided about vaccination towards vaccine rejection. The rapid dissemination of questionable information through online media leads to confusion and mistrust among people, creating concerns about vaccines. While many disease factors have been neutralized with the strategy of the Ministry of Health on vaccination, the same diseases are coming back to the agenda with vaccine refusals (Özata and Kapusuz: 2019).

Parents are constantly exposed to an excessive number of opinions from others about vaccines. All this information can be overwhelming for some parents and make it difficult for them to make their own informed decisions. Many of the reports and opinions directed at parents that cause uncertainty target the safety of vaccines (McKee and Bohannon: 2016).

3. Anti-Vaccination in Digital Media

Fredrickson et al. (2004) found that the most commonly reported reason for parents refusing one or more vaccines is other people or media reports. While it is commonly believed that vaccine rejection is primarily associated with individuals with low levels of education, it is observed that individuals with higher levels of education also engage in vaccine refusal to a considerable extent from a societal perspective. In a news article published in a national newspaper in Türkiye in 2009 with the

headline 'Celebrities Are Cold Towards Vaccination,' a question was posed to a group of 16 participants, including doctors, members of parliament, muftis, academicians, writers, and well-known individuals: 'Would you have your child vaccinated against swine flu?' Fourteen of the participants answered 'No' (Milliyet, 2009).

The potential biggest reason for parents refusing to have their children vaccinated is concerns related to the safety of vaccines. Most of these concerns are based on information that parents discover in the media or receive from people they know (McKee and Bohannon: 2016). It is stated that the behaviors and vaccination rates of politically prominent figures, celebrities, and influential individuals, including religious leaders, who address and influence society, can directly impact people's acceptance of vaccines and their attitudes towards vaccines (Argüt et al., 2016).

In today's digital age, with the effective use of the online platform, it is observed that the views of vaccine-opposing individuals can quickly reach large audiences. People who use social media can publish their thoughts, and all internet users can easily access these opinions. People, especially in matters related to health content, use digital platforms effectively both to educate themselves and to form opinions. Manipulative thoughts with scientific content lead to confusion, change individuals' perspectives on diseases preventable through vaccination, and negatively influence many people's attitudes towards immunization (Ataç and Aker: 2014).

Social media offers a wide range of opportunities for individuals to discuss healthcare services (Taşcı and Gökler: 2021). Furthermore, stories in the media, such as social media and large-scale news sources, are often sensationalized to achieve higher ratings. Often, statements that draw attention to a rare event where a child suffers due to an unforeseen side effect of a vaccine create fear in the hearts and minds of parents regarding vaccination (McKee and Bohannon: 2016).

Today, some claims about vaccines are spreading more through the internet and social media, negatively affecting parents who lack information about vaccines. This situation is pushing individuals towards vaccine hesitancy or rejection (Özata and Kapusuz: 2019). It was determined that 65% of the 87 videos related to vaccines on YouTube had an anti-vaccine tendency (Basch, Zybert, Reeves and Basch: 2017). Taşcı and Gökler (2021) examined 10 accounts on Instagram and found that the emphasis on distrust in the content of vaccines was frequently included in the posts.

UNICEF's research in Eastern Europe has determined that blogs, forums, and social media are actively used to express anti-vaccination views. In the research, it is observed that blogs are heavily involved in disseminating anti-vaccine theses, while the number of people influenced by social media is increasing. Anti-vaccine advocates in English publications often include conspiracy theories related to side effects and religious/ethical concerns, while in Russian publications, they inform people about religious/ethical concerns, and in Polish publications, they cover unwanted effects of vaccines and toxic substances (Ataç and Aker, 2014).

4. Methodology

4.1. Data Collection Tools

4.1.1. Participant Information Form

The participant information form developed by researchers contains questions related to the socio-demographic characteristics of parents who refuse to vaccinate their children, such as age, gender, education level, and income status.

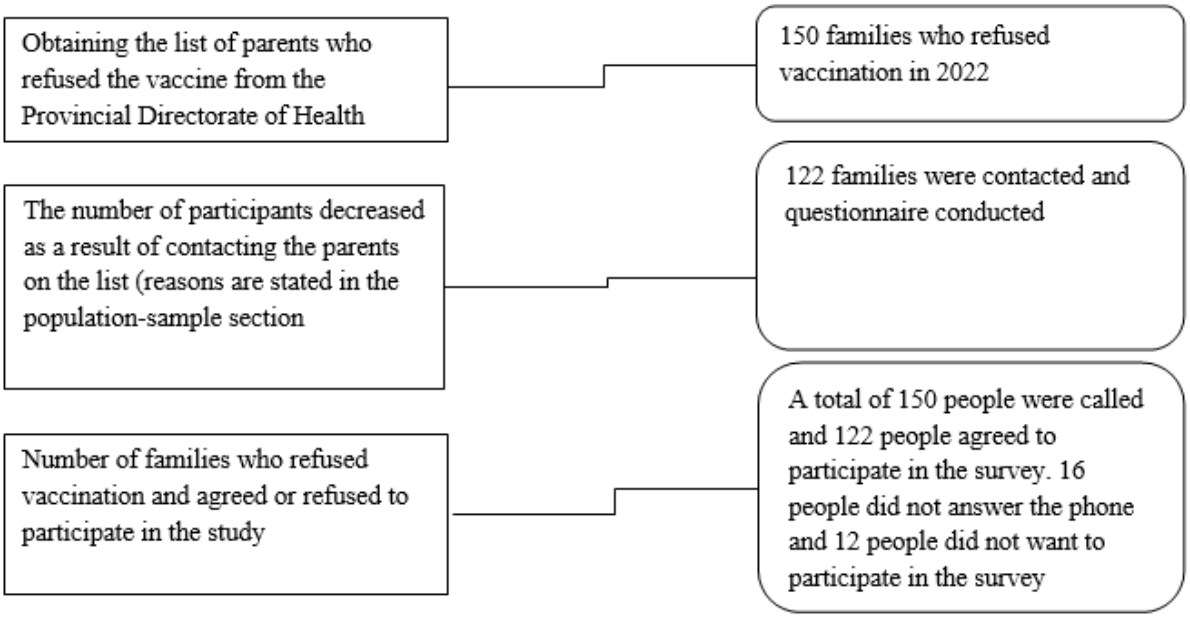
4.1.2. Vaccine Rejection Reasons Form

The Vaccine Rejection Reasons Form, developed by Hasar, Özer, and Bozdemir (2021), was used. The form includes questions aimed at determining parents' thoughts on vaccination practices and the reasons for refusing vaccines for their children.

4.2. Population and Sample of the Study

The population of the study consisted of 150 parents living in Aksaray province who refused vaccination in 2022. A total of 122 people were contacted by telephone, the participants were informed about the subject and the survey form was applied to all of them. 16 people were called and no response was received and 12 people did not want to participate in the study.

Figure 1: Flow Diagram of Sample and Participants Status



4.3. Ethical Aspects of the Research

The research was conducted in accordance with the principles of the Declaration of Helsinki, and prior to the start of the research, approval was obtained from the Directorate of Aksaray Provincial Health (on April 27, 2023) and the Human Research Ethics Committee of Aksaray (protocol decision number 2023/01-85, dated April 25, 2023). In addition, individuals within the scope of the sample were informed about the study, and their consent was obtained.

4.4. Evaluation of Data

The data obtained from the research were analyzed in SPSS 24 package program. Descriptive statistics such as percentages were used to analyze socio-demographic characteristics. Chi-Square analysis was used to test the relationship between the criteria chosen by the participants and their demographic characteristics. In statistical decisions, $p < 0.05$ level was accepted as an indicator of significant difference.

5. Findings

Number of rejected vaccines in 2022 in Aksaray presented in Table 1.

Table 1: Number of Rejected Vaccines in Aksaray Province in 2022

DTaB-IPA	DTaB-IPA-Hib	BCG	OPA	HEP B	HEP A	KPA	KKK	CHICKENPOX	TD
43	10	7	10	15	60	13	68	16	19

The numbers of rejected vaccines are presented in Table 1. Accordingly, the highest vaccine rejection is seen in MMR (measles, rubella, mumps) followed by Hepatitis A, and the least vaccine rejection is seen in BCG (Bacillus Calmette-Guerin) and then OPA (Oral Polio Vaccine) vaccine.

Table 2: Socio-Demographic Characteristics of Participants (n=122)

Age Groups	**N**	**%**
25 years of age or younger	16	13,1
26-35 years	70	57,4
36-45 years	36	29,5
Total	122	100,0
Gender		
Male	42	34,4
Female	80	65,6
Total	122	100,0
Education Level		
High school or below	45	36,9
Associate Degree	33	27,0
Bachelor's Degree or Higher	44	36,1
Total	122	100,0
Income Level		
Between 8500-11000 TL	11	9,0
12000-20000 TL	27	22,1
20000-30000 TL	48	39,3
30001 TL and above	36	29,6
Total	122	100,0

The socio-demographic characteristics of the 122 parents who refused vaccination in Aksaray province in 2022 and participated in the research are presented in Table 2. When examining the distribution of participants in terms of being a mother or father, out of the 122 individuals who refused vaccination, 80 are mothers, and 42 are fathers. In terms of age distribution, 16 individuals are 25 years or younger, 70 individuals are in the 26-35 age group, and 36 individuals are in the 36-45 age group. In terms of education level, 45 individuals have high school education or below, 33 individuals have associate degrees, 41 individuals have bachelor's degrees, and 3 individuals have postgraduate education.

Table 3: Reasons for Participants' Vaccine Rejection (n=122)

Reasons For Vaccine Rejection	YES		NO	
	n	(%)*	n	(%)*
I don't think vaccines are safe/I have concerns about their side effects.	122	100	0	0
Negative things I read or heard about vaccines from the media	31	25.4	91	74.6
I didn't think it was necessary	121	99.1	1	0.9
I don't think vaccines are effective (in preventing diseases)	121	99.1	1	0.9
Bad experiences or reactions I had with previous vaccines	0	0	122	100
Belief-related/religious reasons	52	42.6	70	57.4
Someone else told me that the vaccine is not safe	92	75.4	30	24.6
Someone else told me that their child had a bad reaction after getting the vaccine	9	7.4	113	92.6
Other beliefs/traditional medicine	0	0	122	100
Bad experiences with healthcare personnel or healthcare institutions where I previously received vaccines	0	0	122	100
Fear of needles (injections)	15	12.3	107	87.7
Other reasons	0	0	122	100

* Row percentage

When the reasons for vaccine rejection (Table 3) are examined, all participants stated that they did not get vaccinated because they did not find vaccines safe. In addition, almost all of them stated that they refused vaccines because they did not believe vaccines were effective and necessary, and they had concerns about their content. A significant portion of the participants (42.6%) cited religious reasons as influencing their decision. The rate of those who refused to have their baby/child vaccinated due to being influenced by someone else (word of mouth communication) is 92%.

Table 4: Reasons for Vaccine Rejection by Education Level (n=122)

	Negative Things I Have Read and Heard in the Media About the Vaccine					
Reason	**Yes**		**No**		**Total**	
	N	**%**	**N**	**%**	**N**	**%**
Education Level						
High school or below	2	4,4	43	95,6	45	100
Associate Degree	7	21,2	26	78,8	33	100

Bachelor's Degree or Graduate	22	50	22	50	44	100
Total	31	25,4	91	74,6	122	100
x^2=24,780 **p=0,000**						
	Someone else told me that the vaccine is not safe					
High school or below	39	86,7	6	13,3	45	100
Associate Degree	26	78,8	7	21,2	33	100
Bachelor's Degree or Graduate	27	61,4	17	38,6	44	100
Total	92	75.4	30	24.6	122	100
x2=7,960 **p=0,019**						
	Someone else told me that their child had a bad reaction after vaccination					
High school or below	4	8,9	41	91,1	45	100
Associate Degree	1	3	32	97	33	100
Bachelor's Degree or Graduate	4	9,1	40	90,9	44	100
Total	9	7,4	113	92,6	122	100
x2=1,252 p=0,535						

x2= Chi-Square Test, Bold p values show significant differences

It is seen that the effect of negative news in the media differs statistically significantly in terms of the level of education. Accordingly, negative news in the media is more effective as a reason for vaccine rejection in the group with bachelor's and master's degrees. Regarding word of mouth communication, the statement "someone else told me that the vaccine is unsafe" differs statistically significantly according to educational status. The rate of vaccine rejection for this reason was higher among parents with high school education or less compared to other groups. On the other hand, no statistically significant relationship was found between the level of education and rejection of vaccination based on someone else's report of a negative experience with their child.

Table 5: Reasons for Vaccine Rejection by Income Level (n=122)

	Negative things I have read and heard in the media about the vaccine					
Reason	**Yes**		**No**		**Total**	
	N	**%**	**N**	**%**	**N**	**%**
Income Level						
8500-11000 TL	1	9,1	10	90,9	11	100
12000-20000 TL	3	11,1	24	88,9	27	100
20000-30000 TL	8	16,7	40	83,3	48	100
30001 TL and above	19	52,8	17	47,2	36	100
Total	31	25,4	91	74,6	122	100

x2=20,621 **p=0,000**

			Someone else told me that the vaccine is not safe			
8500-11000 TL	10	90,9	1	9,1	11	100
12000-20000 TL	22	81,5	5	18,5	27	100
20000-30000 TL	39	81,3	9	18,8	48	100
30001 TL and above	21	58,3	15	41,7	36	100
Total	92	75,4	30	24,6	122	100

x2=8,506 **p=0,037**

			Someone else told me that their child had a bad reaction after vaccination			
8500-11000 TL	1	9,1	10	90,9	11	100
12000-20000 TL	2	7,4	25	92,6	27	100
20000-30000 TL	3	6,3	45	93,8	48	100
30001 TL and above	3	8,3	33	91,7	36	100
Total	9	7,4	113	92,6	122	100

x2=0,185 p=0, 980

x2= Chi-Square Test, Bold p values show significant differences

It is seen that those who refuse vaccination due to the influence of negative news in the media differ statistically significantly according to income level. Accordingly, negative news in the media is more effective as a reason for vaccine rejection in the group with the highest income level. It is understood that individuals in the group with the lowest income group are predominantly those who refused vaccination because someone else told them it was unsafe. However, there was no statistically significant relationship between income level and refusal of vaccination when someone else said that they had experienced a negative experience in their own child.

Discussion and Recommendations

One of the most attention-grabbing issues of recent times is vaccine rejection. At a time when consumers are becoming more aware of the need to live a healthier and longer life, there is also an increase in anti-vaccination sentiment. It is interesting to note that these two seemingly contradictory trends were experienced in the same period. Therefore, the main aim of this research is to identify the reasons for vaccine refusals among parents who refuse to vaccinate their children and to examine whether there is a difference in word of mouth communication and digital media's influence on the rejection decision based on income and education levels.

According to the research results, 92 out of 122 parents (75.4%) answered "Yes" to the statement "Someone else told me that the vaccine is not safe." This result shows that word of mouth communication is quite common in vaccine rejection. As a matter of fact, in vaccine rejection in infants and children, there are many parents who are influenced by word of mouth communication and do not vaccinate their baby/child. In word of mouth communication, patients accept the information they receive from family, relatives, and friends as more reliable (Lim and Chung, 2011). Therefore, even if they or someone they know has not had a negative experience with vaccines, parents tend to place more trust in the statements of those around them who consider vaccines unsafe, leading them to refuse vaccination.

In terms of the impact of digital media on vaccine rejection, the results show that 25.4% of the participants refused vaccination based on negative news in the media. This result is in line with what was mentioned by Aydemir, Köse, and Yaşar (2023), indicating that participants generally use social media tools and various communication channels in the virtual environment to track information about health services. In addition, a similar finding was reached by Özceylan, Toprak, and Esen (2020), who stated that 23.84% of the participants cited hearing that vaccines are harmful from television and the internet as a reason for vaccine rejection. The finding that negative information about vaccines acquired from the media leads to vaccine rejection in 86.9% of cases is consistent with the study conducted by Hasar et al. (2021), which identified the proportion of participants who cited the media among the top three reasons for vaccine rejection as 81%. It can be said that there are similar findings to those expressed by Dredze, Broniatowski, Smith, and Hilyard (2016), indicating that a lack of trust in vaccine companies is one of the most important reasons for vaccine rejection and that social media plays a significant role in the spread of this mistrust.

Similar results were obtained with Orak (2018), Ayaydın (2019), Gün (2020), and Yorulmaz and Kuşcu (2022), who found a significant difference in word of mouth communication activities according to educational status among the studies that addressed word-of-mouth communication within the framework of health services. In addition, in this study, it was found that parents in the group with the lowest income were more likely to rely on the comments of others that the vaccine was unsafe. These results are in line with Gürcü (2018), Ayaydın (2019), and Gün (2020), who point to a statistically significant difference in word of mouth activities according to income status.

The study also found a difference in the impact of word of mouth communication and media on vaccine rejection according to income status. In the group with the highest income level among the participants (30000 TL and above), it is seen that digital media comes to the forefront in vaccine rejection. In terms of demographic characteristics, the results are in line with Aydemir, Yaşar, and Çelik (2020), who stated that as the level of education improves and individuals in the high income group have more constructive health services seeking behaviors and that they actively search information about the institutions they receive services. The results are in line with the findings of Erchick et al. (2022) and Hayat Öktem, Karaoğlu, and Kul Uçtu (2023), both of which indicate that vaccine rejection is influenced by socioeconomic status.

The influence of social media and communication tools is of great importance on people due to the effective use of existing technology by individuals and groups influential in religious and philosophical issues in refusing vaccination (Avcı, 2017). In the study, it was found that social networks and reference groups were the sources that individuals frequently consulted, and health personnel and individuals' own service experiences had a significant impact on service purchasing (Ataç and Aker, 2014).

Regarding vaccine rejection, scientists should conduct social studies on the causes of vaccine refusal, engage in societal studies related to vaccination, and develop recommendations that will raise awareness in this direction and appeal to all segments. Research shows that effective communication between health personnel and the people vaccinated and their parents, as well as ensuring reliability, have a very high impact on eliminating uneasiness about vaccination (Bozkurt, 2018). Therefore, it is of great importance that all healthcare professionals, primarily nurses/midwives involved in immunization services, ask parents about the reasons for vaccine refusal and inform families about immunization in a clear and detailed manner (Çıtak and Aksoy, 2020).

The results of the study provide clues to the vaccine-related communication policies developed by the Ministry of Health. The results of the study point to the guiding power of the media in health services in general and the vaccine products in particular. Moreover, this highlights important aspects of social marketing activities conducted by the Ministry of Health. Social marketing is defined as the use of evidence-based marketing methods and practices to influence a specific audience to voluntarily accept, reject, change or abandon a behavior for the benefit of the personal, social, and environmental health of individuals, groups or society (Kotler and Lee, 2008; Luca and Suggs, 2013; Zengin and Özsaçmacı, 2021). When well-designed, it is possible to develop and maintain positive health behaviors in the target audience and society through social marketing programs (Andreasen, 2006; Zengin and Özsaçmacı, 2021). Considering the impact of digital media within the framework of social marketing activities, it is essential to pay attention to the careful use of digital media for effective communication.

Social media should be used more effectively for vaccination campaigns and information. Develop communication language appropriate to the income and education levels of vaccine refusers and use marketing communication messages that emphasize the safety of vaccines. Particular emphasis should be placed on activities that encourage positive word of mouth behavior through digital media. At this point, the use of influencers, which has recently gained prominence on social media and is known to have an impact on consumer purchase decision-making processes, can be evaluated. With short video content, the focus should be on effective and purposeful information transfer on social media. By choosing to use various social media channels for social marketing activities, social media can be used to reach large segments of the population at a very low cost. Therefore, it can be beneficial for social health awareness (Zengin and Özsaçmacı, 2021).

The study was conducted on parents who refused to vaccinate their infants and/or children in a specific province in the Central Anatolia Region and in a specific year. The fact that there has not been a study to determine vaccine rejection and its reasons for Aksaray province within the scope of health services makes this study pioneering. Furthermore, in the future, designing research studies that cover longer and specific periods or that encompass multiple provinces in a particular region will enable the attainment of more generalizable results.

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