

Reasons for parental hesitancy or refusal of childhood vaccination in Türkiye

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Abstract

Background: Although vaccines play a critical role in the control of infectious diseases and disease outbreaks, vaccination rates have been declining in recent years because of vaccine hesitancy or refusal.

Aims: We aimed to determine the rates and reasons for parental hesitancy or refusal of vaccination for their children in Türkiye.

Method: A total of 1100 participants selected from 26 regions of Türkiye were involved in this cross-sectional study conducted between July 2020 and April 2021. Using a questionnaire, we collected data on the sociodemographic characteristics of parents, the status of vaccine hesitancy or refusal for their children, and reasons for the hesitancy or refusal. Using Excel and SPSS version 22.0, we analysed the data with chi-square test, Fisher's exact test and binomial logistic regression.

Results: Only 9.4% of the participants were male and 29.5% were aged 33–37 years. Just over 11% said they were worried about childhood vaccination, mainly because of the chemicals used in manufacturing the vaccines. The level of concern was greater among those who got information about vaccines from the internet, family members, friends, TV, radio, and newspapers. Those who used complementary health services were considerably more hesitant about vaccination than those who used mainstream services.

Conclusions: Parents in Türkiye have several reasons for hesitating or refusing to vaccinate their children, key among which are concerns about the chemical composition of the vaccines and their ability to trigger negative health conditions such as autism. This study used a large sample size across Türkiye, although there were differences by region, the findings would be useful in designing interventions to counter vaccine hesitancy or refusal in the country.

Keywords: childhood vaccination, public health, vaccine hesitancy, vaccine refusal, Türkiye

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Introduction

Vaccination prevents about 2–3 million deaths yearly caused by infectious diseases such as diphtheria, whooping cough (pertussis), measles and influenza (1). However, some members of the society focus on the risks or side-effects of the vaccines, resulting in vaccine refusal or hesitancy, which is becoming widespread, and decreasing vaccination rates (1,2). The World Health Organization (WHO) established the SAGE Working Group on Vaccine Hesitancy in 2012 to address vaccine concerns and followed by a review of vaccine refusal and hesitancy in their research. Vaccine hesitancy (concern) refers to delay in acceptance or refusal of some vaccines despite their availability. Vaccine refusal means that the person refuses all vaccines (3). It has been found that the rate for skipping certain vaccines is greater than the rate for rejecting vaccines entirely (4).

In order to tackle vaccine hesitancy in any country or community, it is first necessary to identify its magnitude and the underlying reasons (3,5). Vaccine hesitancy is a complicated problem globally, which rapidly changes

with time, the specific culture, and specific vaccines. Anti-vaccination movement increases vaccine hesitancy in a society and makes the situation more complicated. Families acceding to vaccine hesitancy often get their information through the internet and websites of anti-vaccination groups. Anti-vaxxers may have an impact on people who hesitate to take a by misrepresenting scientific knowledge or suggesting alternative discourse (6). The popularity and prevalence of the internet has catalysed the communication and spread of anti-vaccine beliefs.

Considering that the success of vaccination programmes depends on high vaccination rates (7), increasing hesitancy and indecisiveness pose a great threat to the sustainability and success of vaccination programmes. Policymakers and health professionals require accurate and current national data to address vaccine hesitancy among parents (8). Identifying the determinants of hesitancy by describing existing vaccine hesitancy among parents is vital to increasing the rate of immunization and establishing and maintaining

vaccination programmes. A limited number of studies have been conducted so far for this purpose in Türkiye, thus, our study aimed to determine the reasons for parental hesitancy and refusal of childhood vaccination in the country.

Methods

Study design

This descriptive, cross-sectional study was conducted between July 2020 and April 2021.

Population and sample

Taking into consideration the population, geography, regional development plans, basic statistical indicators and socioeconomic development among the provinces, 12 Level 1, 26 Level 2 and 81 Level 3 Nomenclature of Units for Territorial Statistics (NUTS) for Türkiye have been defined (9). The research was conducted in the 26 sub-regions of the NUTS2 Region. Türkiye Statistical Regional Units Classification is the classification used for Türkiye within the Statistical Regional Units Classification used by the countries of the European Union. Individuals living in these subregions who had a child studying in 8th grade or below were included in this study. Considering that the population in this category is 15 million (10), the minimum required sample to represent the population was calculated as 1068, with a 3% margin of error and 95% confidence interval (CI). To account for possible dropouts or incompleteness, 1100 persons who agreed to participate and did not have any obstacles in communication were included in this study.

Expected frequency was 15.0%, design effect for multistage sampling was 2 and 0.03 as indicated in the sample selection (3% margin of error). We used a multistage approach for sample selection. The National Address Database supported by the Address-Based Population Registration System, was used (11). Sampling was carried out in 2 phases. The first phase included the selection of groups in the areas identified from the NUTS2 region; the sample was proportionate with the population size. In the second phase, we selected participants using a simple random sampling method: individuals were selected from the total number in each group. The software used was *Excel*.

We used a commercial service to conduct the survey and the questionnaires were administered by trained interviewers. Field staff were trained on the importance of the topic, data collection, interview techniques, field procedures, the content of the questionnaire, and computer-assisted personal interviewing (CAPI). The questionnaire was pilot-tested on 38 individuals who met the inclusion criteria (having children in 8th grade and below, volunteering to participate and not having any communication barriers) selected from Istanbul Province. These results were not included in the actual study. No changes were made to the questionnaire after the pilot.

Data collection

The 2-part questionnaire used in this study was prepared by the researchers after scanning previous publications (12–15). The first part included questions about the sociodemographic characteristics of the participants; the second part had questions about childhood vaccine hesitancy and refusal and the factors which may affect participants' decision about the issue. The questionnaires were completed by the interviewers using the CAPI method after verbal consent was given by the participants.

Statistical analysis

The data from the study were analysed using *SPSS*, version 22.0. Number and percentage were used to present descriptive data. Chi-squared, Fisher's exact test and binomial logistic regression were used for statistical analyses. $P < 0.05$ was considered statistically significant in all evaluations.

Ethical considerations

The study was conducted in accordance with the written permission of the Local Committee of Inonu University, Faculty of Medicine (2020\585).

Results

This study was conducted throughout Türkiye. In proportion to the data in the Nomenclature of Units for Territorial Statistics, the geographical distribution of participants was: 27.3% lived in Istanbul Province, 13.8% in Western Anatolia, 12.2% in the Aegean region, 11.1% in the Mediterranean region, 8.6% in the East Marmara and South-eastern Anatolia region, 4.1% in the Western Black Sea region, 4.0% in the Western Marmara region, 3.5% in East-Central Anatolia, 3.0% in Central Anatolia, 2.4% in North-eastern Anatolia and 1.5% in the Eastern Black Sea Region.

Just over 90% of the participants were women; 54.7% were housewives and almost 75% were educated to high school level or above (Table 1). Concerns about childhood vaccination were expressed by 11.2% of the participants. The sources of information about vaccines reported by parents included hospitals, family health centres or health care staff (89.5% of sources) and the internet or social media (24.2% of sources) (some parents consulted more than one option). Around 80% of the participants stated that they preferred to wait and see other people get vaccinated when a new vaccine comes out; 8.2% said they were undecided about new vaccines, while 10.8% said waiting was unnecessary (Table 2).

Among those who expressed vaccine hesitancy or refusal, 59.3% stated that they believed that the chemical constituents of vaccines may cause certain health conditions. We found that the hesitancy rate was greater among women than among men ($P < 0.032$). Among those who were satisfied with the information received from healthcare professionals, vaccine hesitancy was significantly lower than it was among those who said they were not satisfied or those who did not

Table 1 Sociodemographic characteristics of participants (n = 1100), Türkiye, 2020–2021

Characteristic	No.	%
Sex		
Female	997	90.6
Male	103	9.4
Age (years)		
≤ 27	126	11.5
28–32	287	26.1
33–37	324	29.5
38–42	219	19.9
≥ 43	144	13.1
No. of children		
1	573	52.1
2	421	38.3
3	83	7.5
≥ 4	23	2.1
Occupation		
Housewife	602	54.7
Self employed	211	19.2
Civil servant	188	17.1
Employee	99	9.0
Occupation of spouse		
Self employed	528	48.0
Employee	287	26.1
Civil servant	200	18.2
Housewife	64	5.8
Other (widowed/divorced)	21	1.9
Education		
Elementary school and less	162	14.7
Secondary school	128	11.6
High school	396	36.0
Associate degree	130	11.8
Bachelor's/master's/doctorate	284	25.8
Average monthly family income (TL)		
Minimum wage and below	200	18.2
3000–5000	403	36.6
5001–10 000	295	26.8
≥ 10 001	136	12.4
No response	66	6.0

TL = Turkish lira.

give an opinion ($P < 0.001$). The hesitancy rate among participants who believed that childhood vaccination should be compulsory by law was significantly lower than for those who disagreed with this idea or did not respond ($P < 0.001$). Vaccine hesitancy among participants using complementary/alternative medicine (CAM) was significantly greater than among those who used mainstream medicine ($P < 0.001$). Hesitancy rate among participants who were aware of the health problems that may arise among unvaccinated children was significantly

Table 2 Participants' attitudes and other information regarding vaccines (n = 1100), Türkiye, 2020–2021

Issue	No.	%
Hesitancy about childhood vaccines		
Yes	123	11.2
No	977	88.8
Information sources about vaccine		
Hospital/family health centre/health professional	985	89.5
Internet/social media	266	24.2
Family/friend/relative	111	10.1
TV/radio/newspaper	56	5.1
Book	50	4.5
Private (paid for) vaccination		
Yes	435	39.5
No	636	57.8
Can't remember/no idea	29	2.6
Do you wait when a new vaccine is presented?		
Yes	891	81.0
No	119	10.8
Indecisive	90	8.2
Are you satisfied with performance of health professionals on vaccination?		
Yes	912	82.9
No	121	11.0
No idea	67	6.1
Is childhood vaccination obligatory?		
Yes	563	51.2
No	390	35.5
No idea/don't know	147	13.4
Do you think childhood vaccines must be obligatory by law?		
Yes	811	73.7
No	253	23.0
No idea/don't know	36	3.3
Are you aware of health risks that may emerge where the vaccine is not administered?		
Yes	849	77.2
No	127	11.5
A little	124	11.3
Do you use complementary/alternative medicine instead of mainstream medicine?		
Yes	287	26.1
No	813	73.9

lower than among those who knew less (or nothing) about them ($P < 0.003$) (Table 3).

Hesitancy rate for participants who obtained their information from the hospital/family health centre/healthcare professionals was significantly lower than for others ($P < 0.001$). Hesitancy rate was statistically significantly greater among those who got information about vaccines from the internet or social media ($P <$

Table 3 Distribution of childhood vaccine hesitancy according to sociodemographic and other characteristics of participants (individuals who had a child studying in 8th grade or below) (n = 1100), Türkiye, 2020–2021

Characteristic	Hesitant		Not hesitant		P
	No.	%	No.	%	
Sex					
Male	5	4.9	98	95.1	0.032
Female	118	11.8	879	88.2	
Age					
≤ 27	19	15.1	107	84.9	0.155
28–32	29	10.1	258	89.9	
33–37	42	13.0	282	87.0	
38–42	16	7.3	203	92.7	
≥ 43	17	11.8	127	88.2	
Occupation					
Housewife	76	12.6	526	87.4	0.328
Civil servant	15	8.0	173	92.0	
Employee	10	10.1	89	89.9	
Self employed	22	10.4	189	89.6	
Occupation of spouse					
Housewife	2	3.1	62	96.9	0.018
Civil servant	32	16.0	168	84.0	
Employee	29	10.1	258	89.9	
Self employed ^a	60	11.4	468	88.6	
Other (widowed/divorced)	0	0	21	100.0	
Education					
Elementary school and below	13	8.0	149	92.0	0.051
Secondary school	7	5.5	121	94.5	
High school	51	12.9	345	87.1	
Associate degree	20	15.4	110	84.6	
Bachelor's/Master's/doctorate	32	11.3	252	88.7	
Average monthly family income (TL)					
Minimum wage and less	17	8.5	183	91.5	0.378
3000–5000	53	13.2	350	86.8	
5001–10000	35	11.9	260	88.1	
≥ 10 001	12	8.8	124	91.2	
No reply	6	9.1	60	90.9	
Hesitant about a newly-presented vaccine					
Yes	103	11.6	788	88.4	0.590
No	10	8.4	109	91.6	
Indecisive	10	11.1	80	88.9	
Are you satisfied with performance of health professionals on vaccination?					
Yes ^b	64	7.0	848	93.0	< 0.001
No ^c	45	37.2	76	62.8	
Can't remember/no idea	14	20.9	53	79.1	
Do you think childhood vaccines must be obligatory by law?					
Yes	44	5.4	767	94.6	< 0.001
No ^d	75	29.6	178	70.4	
No idea/don't know	4	11.1	32	88.9	

Table 3 Distribution of childhood vaccine hesitancy according to sociodemographic and other characteristics of participants (individuals who had a child studying in 8th grade or below) (n = 1100), Türkiye, 2020–2021 (concluded)

Characteristic	Hesitant		Not hesitant		P
	No.	%	No.	%	
Do you use complementary/alternative medicine instead of mainstream medicine?					
Yes	55	19.2	232	80.8	< 0.001
No	68	8.4	745	91.6	
Are you aware of health risks that may emerge where the vaccine is not administered?					
Yes ^a	81	9.5	768	90.5	0.003
No	18	14.2	109	85.8	
Little	24	19.4	100	80.6	

TL = Turkish lira.

^a Different from others.

^b Different from each other.

0.001), family member/friend/relative ($P = 0.036$) or TV/radio/newspaper ($P = 0.013$).

Preference to pay for the vaccine (rather than using the free service) was greater among women than among men (40.8% vs 27.2%) ($P = 0.026$) (Table 4). The higher the educational level of the participants, the greater was their preference for paid vaccination (around 60% for degree level vs 9–40% for lower levels) ($P < 0.001$). Housewives showed the lowest preference for paid vaccine (29.7%) ($P < 0.001$). Those in the highest income group showed a greater preference for paid vaccination (80.9%) than those on lower incomes (12.0–58.0%) ($P < 0.001$).

In the analysis carried out after we sorted the NUTS2 regions into 5 sub-regions (east, west, north, south and central), we observed that vaccine hesitancy rates differed markedly from region to region. Individuals living in the western part of the country showed greater concern, with a hesitancy rate of 69.1%, than those living in other regions.

We carried out binomial logistic regression analysis for the independent variables affecting childhood vaccine hesitation among parents (Table 5). Those who could not remember or had no idea about whether they were satisfied with the information given by healthcare professionals were 3.28 times more hesitant (95% CI: 1.67–6.49; $P = 0.001$), and those who said they were not satisfied 9.34 times more hesitant, than those who said they were satisfied (95% CI: 5.74–15.15; $P < 0.001$).

Participants who believed that childhood vaccinations should be compulsory by law were 1.95 times more hesitant about childhood vaccinations than those who said they had no idea about this issue (95% CI: 1.02–3.73; $P = 0.043$) (Table 5). Parents who used CAM were 2.63 times more hesitant than those who did not (95% CI: 1.72–4.04; $P = 0.001$).

Parents who knew about the health problems that may occur in their baby/child if the vaccine was not given were 2.26 times more hesitant about childhood vaccinations than those with little knowledge (95% CI: 1.26–4.05; $P = 0.006$) (Table 5).

Discussion

Refusal or indecision regarding childhood vaccination by parents has increased globally even though vaccination is still one of the greatest successes of public health campaigns. The success of vaccination programmes depends on high rates of uptake and the increase in vaccine hesitancy and indecision poses a serious threat to the sustainability and success of vaccination in general (3). Most of the parents who hesitate about vaccines have a common denominator: they do not have their children fully vaccinated (some vaccines are not administered), they prefer to select certain vaccines (16). In a study in Canada, 19.0% of the parents showed vaccine hesitancy, while only 3.0% (anti-vaxxers) refused all vaccines (17). The WHO defines vaccine hesitancy as “delay in acceptance or refusal of some vaccines despite availability of vaccine services”, i.e. different from vaccine refusal (3).

In our study, 11.2% of parents reported being concerned/hesitant about childhood vaccines, and vaccine hesitancy or concern was more common than vaccine refusal; this is substantiated by other research concluding that “vaccine hesitancy eclipses vaccine refusal” (3,18). Özdemir and Aşut demonstrated that most of their participants, students in a health vocational school, (87.0%) said they were anti-vaxxers (19). A systematic review concluded that, even though most parents had fully completed the vaccination schedule for their children, they still had concerns about the constituents of vaccines and were unsure about having their children vaccinated (18). Sargül et al. found that 7.7% of parents were opposed to the administration of any vaccine to their child (20).

Worldwide, vaccine hesitancy fluctuates between 25% and 45%, although the rate for anti-vaxxers is less than 2% (21). In 2019, the WHO described “being hesitant about vaccine” as one of the biggest global threats even though vaccines were developed to protect people from disease (22). Reducing vaccine hesitancy rates is a critical component in improving public health. This can only be ensured by delineating the actual levels of vaccine hesitancy; monitoring change over the years and

Table 4 Vaccination rates for participants (individuals who had a child studying in 8th grade or below) (n = 1100) according to sociodemographic and other characteristics, Türkiye, 2020–2021

Characteristic	Private (paid) vaccination						P
	Yes (n = 435)		No (n = 636)		Can't remember/ no idea (n = 29)		
	No.	%	No.	%	No.	%	
Sex							
Male	28	27.2	72	69.9	3	2.9	0.026
Female	407	40.8	564	56.6	26	2.6	
Age (years)							
≤ 27	29	23.0	96	76.2	1	0.8	0.004
28–32	120	41.8	157	54.7	10	3.5	
33–37	142	43.8	175	54.0	7	2.2	
38–42	86	39.3	127	58.0	6	2.7	
≥ 43	58	40.3	81	56.3	5	3.5	
Education							
Elementary school and below ^a	15	9.3	144	88.9	3	1.9	< 0.001
Secondary school ^b	24	18.8	103	80.5	1	0.8	
High school ^c	150	37.9	239	60.4	7	1.8	
Associate degree	77	59.2	48	36.9	5	3.8	
Bachelor's/Master's/doctorate	169	59.5	102	35.9	13	4.6	
Occupation							
Housewife ^d	179	29.7	412	68.4	11	1.8	< 0.001
Civil servant	96	51.1	84	44.7	8	4.3	
Employee	31	31.3	66	66.7	2	2.0	
Self employed	129	61.1	74	35.1	8	3.8	
Average monthly family income (TL)							
Minimum wage or less	24	12.0	176	88.0	0	0	< 0.001
3 000–5 000	116	28.8	278	69.0	9	2.2	
5 001–10 000	171	58.0	114	38.6	10	3.4	
10 001 and over ^e	110	80.9	17	12.5	9	6.6	
No reply	14	21.2	51	77.3	1	1.5	
Do you wait when a new vaccine is available?							
Yes	366	41.1	500	56.1	25	2.8	0.142
No	40	33.6	78	65.5	1	0.8	
Indecisive	29	32.2	58	64.4	3	3.3	
Are you satisfied with performance of health professionals on vaccination?							
Yes	367	40.2	522	57.2	23	79.3	0.215
No	45	37.2	70	57.9	6	5.0	
Can't remember/no idea	23	34.3	44	65.7	0	0	
Are you aware of health risks that may emerge where the vaccine is not administered?							
Yes ^f	365	43.0	466	54.9	18	2.1	< 0.001
No ^g	31	24.4	94	74.0	2	1.6	
A little	39	31.5	76	61.3	9	7.3	
Do you use complementary/alternative medicine instead of mainstream medicine?							
Yes	112	39.0	171	59.6	4	1.4	0.285
No	323	39.7	465	57.2	25	3.1	

TL = Turkish lira.

^{a,b,c}Different from others.^{d,e}Different from each other.^{f,g}Different from others.

Table 5. Binomial logistic regression analysis of independent variables affecting childhood vaccine hesitancy among parents (individuals who had a child studying in 8th grade or below) (n = 1100), Türkiye, 2020–2021

Characteristic	OR	95% CI	P
Sex			
Male	1		
Female	2.69	0.99–7.30	0.052
Occupation			
Housewife	1.01	0.57–1.79	0.955
Civil servant	1.17	0.56–2.45	0.666
Employee	1.25	0.51–3.02	0.620
Self employed	1		
Are you satisfied with the performance of health professionals on vaccination?			
Yes	1		
No	9.34	5.74–15.15	< 0.001
Can't remember/no idea	3.28	1.67–6.49	0.001
Do you think childhood vaccines must be obligatory by law?			
Yes	1.95	1.02–3.73	0.043
No	1.32	0.70–2.46	0.383
No idea/don't know	1		
Do you use complementary/alternative medicine instead of mainstream medicine?			
Yes	2.63	1.72–4.04	< 0.001
No	1		
Are you aware of health risks that may emerge where the vaccine is not administered?			
Yes	2.26	1.26–4.05	0.006
No	1.55	0.73–3.27	0.250
A little	1		

OR = odds ratio; CI = confidence interval.

analysing the reasons behind it; and determining which factors are considered to play a part in it.

We found that the level of concern among individuals using CAM was statistically significantly greater than among those using mainstream medicine. The use of CAM is becoming more widespread in Türkiye and throughout the world. Research conducted in recent years has indicated a relationship between vaccine refusal and the use of CAM (8,23,24). In a study conducted in Croatia, it was determined that the use of CAM increased the probability of refusing vaccines at a pronounced level (25). A study conducted in Australia on 2697 individuals to examine the relationship between CAM use and vaccine hesitancy concluded that CAM use and vaccine refusal were fundamentally associated in terms of attitude, and a person's world view had an influence on vaccine hesitancy (26).

Among parents, there is an increasing tendency towards a greater interest in CAM, which has become influential in many health-related issues, including immunization. Parents increasingly see natural immunity and alternative medical products as superior to the immunity created by vaccines and better than vaccines in preventing disease (27). Other research has found that individuals perceived CAM methods as reliable and more natural practices that do not require the use of chemical

constituents or do not produce side-effects (28). In a study conducted in Finland, 3 important categories were reported among the reasons cited by Finnish parents for refusal of childhood vaccines. One category related to the health perceptions and practices of the individuals. The parents saw CAM as an important part of their disease prevention practices. They said some CAM practitioners had told them that “the vaccine is unnecessary and detrimental” (29). Childhood vaccine refusal or hesitancy stems particularly from the perception that some anti-vaxxers are experts even though they have no scientific expertise in vaccinology (30).

Health professionals play a highly important role in enhancing the success of vaccination programmes. In our study, those individuals who got their information from hospitals and health professionals had lower rates of concern about vaccines. Parents who had a higher level of concern were mainly influenced by sources such as the internet, social media, friends, groups, and TV programmes.

Sources of information are among the most important factors in generating worries about vaccines. It has been demonstrated that the proliferation of disinformation via the internet negatively impacts the acceptance of vaccination. Among Americans who had access to the internet, 55% of those accessing web-based

research to obtain health or medical information stated that the information they got affected their behaviours regarding health issues (31). The accuracy and quality of the information provided by health websites differ from site to site. Unfortunately, about 6% of those scrutinized gave misinformation (32). A report issued by the Centre for Countering Digital Hate states that the social media accounts of anti-vaxxers have attracted 7.8 million followers since 2019, 31 million Facebook users follow the anti-vaxxing accounts, and 17 million YouTube users have subscribed to similar accounts (33).

Reducing the spread of disinformation in the online environment requires sustained collaborations among health professionals, lay pro-vaxxers and social media platforms (31). Social media platforms have the capacity to stop the spread of disinformation via artificial intelligence and they can restrict the spread of online misinformation via the policies they enforce. For example, in 2017, a web-based platform evaluated erroneous information about vaccines and prohibited any advice and advertisements supporting the anti-vaxxing advice and disinformation. In this way, an important step was taken to fight disinformation by not showing any results on anti-vaxxing for searches requesting information about vaccines (34).

Individuals reporting that they had concerns or hesitancy about vaccines stated that they were hesitant or refused vaccines because they believed that: the chemical constituents may cause autism, there are many side-effects, they do not trust the pharmaceutical companies, they are not well informed about vaccines, or that vaccines damage the immune system of children and may even cause infertility. In a study among parents who opposed vaccination, the main reason behind their opposition was the fear of potential side-effects (35). In a study among Turkish nurses, those who believed that chemical substances in the vaccines caused autism or infertility or damaged the immune system of children were more hesitant about vaccines than those who did not have this belief (36). Fear of autism is one of the reasons for concern still referred to by parents (30). Among Finnish parents who refused the childhood vaccines, either partially or fully, the most prominent reason behind their refusal was their concern about the possible side-effects. The second reason was distrust of the health authorities, medical research on vaccination and health care service providers (29). It is thought that the individuals who had hesitancy about, or refused, vaccines did not have correct information about the constituents of vaccines and their side-effects. This may be because public health professionals and health care service providers have not been able to convey adequate

or correct information to them since in our study, the participants who were knowledgeable about the potential health risks of not being vaccinated had a lower level of vaccine hesitancy.

We found that individuals living in the western part of Türkiye had a greater hesitancy rate than those living in other regions. According to the Türkiye Population and Health Research 1998–2018 data, vaccination coverage (i.e. all the vaccines defined in the vaccination schedule up to one year of age, including measles have been fully completed) (38) has fallen in all regions except the eastern part (39). The clearest fall in vaccination coverage has been seen in the north of the country: according to 2018 figures, vaccination coverage was highest in the east and lowest in the north. This considerable variation in vaccination coverage, which does not correspond with the general level of regional social inequality, necessitates scrutinizing the primary health care services.

On examining changes in the rate of vaccination coverage for infants aged 12–23 months, the highest rate was seen in the eastern region, at 4.3%, and the lowest rate in the central region, at 0.8% (38). Both vaccine coverage and the non-vaccination rate were higher for the eastern part of Türkiye, suggesting that in this region there is less concern about vaccines, and that people may consider hesitancy to be totally different from the concept of vaccine refusal. When “vaccine concern” is evaluated as a term including “indecisiveness”, this is expected to have made a difference, particularly at the regional level. These differences may result from the type of vaccine being offered and factors influencing people against vaccination (knowledge, attitude, behaviour), contextual effects, interactions among individuals and groups, social norms, variations in educational background, sociocultural differences and even different economic conditions.

Our study had certain strengths. Several studies conducted previously on vaccination mainly focused on the physicians and other health professionals; which reflected their perceptions about vaccine refusal or hesitancy. Our research was carried out with the intention of reflecting the perceptions of the parents, the principal source of the problem.

Conclusion

Studies conducted in Türkiye about vaccine hesitancy or refusal have so far been limited to the local or regional level. Our comprehensive study is important as it had a large sample size, it was conducted throughout the country and highlights some of the differences among the regions.

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Raisons de la réticence des parents face à la vaccination de leurs enfants ou de leur refus en Türkiye

Résumé

Contexte : Bien que les vaccins jouent un rôle essentiel dans la lutte contre les maladies infectieuses et les flambées épidémiques, les taux de vaccination ont diminué ces dernières années en raison de la réticence face à la vaccination ou du refus de vacciner.

Objectifs : La présente étude avait pour objectif de déterminer les taux et les raisons de la réticence des parents face à la vaccination de leurs enfants et de leur refus à cet égard en Türkiye.

Méthode : Au total, 1100 participants sélectionnés dans 26 régions de Türkiye ont participé à cette étude transversale menée entre juillet 2020 et avril 2021. À l'aide d'un questionnaire, nous avons recueilli des données sur les caractéristiques socio-démographiques des parents, le statut et les raisons de la réticence face à la vaccination de leurs enfants ou de leur refus à cet égard. En utilisant Excel et le logiciel SPSS (version 22.0), nous avons analysé les données par le test du khi carré, le test exact de Fisher et la régression logistique binomiale.

Résultats : Seuls 9,4 % des participants étaient des hommes et 29,5 % étaient âgés de 33 à 37 ans. Un peu plus de 11 % d'entre eux ont déclaré être préoccupés par la vaccination des enfants, principalement à cause des produits chimiques utilisés dans la fabrication des vaccins. Le degré d'inquiétude était plus élevé parmi ceux qui avaient obtenu des informations sur les vaccins par le biais d'Internet, de membres de leur famille, de leurs amis, de la télévision, de la radio et des journaux. Les personnes qui avaient eu recours à des services de santé complémentaires étaient beaucoup plus hésitantes à l'égard de la vaccination que celles qui avaient fait appel à des services s'adressant à l'ensemble de la population.

Conclusions : Les parents en Türkiye ont plusieurs raisons d'hésiter à faire vacciner leurs enfants ou de refuser de le faire, parmi lesquelles figurent les inquiétudes concernant la composition chimique des vaccins et leur capacité à déclencher des problèmes de santé négatifs tels que l'autisme. La présente étude a utilisé un échantillon de grande taille dans l'ensemble de la Türkiye. Bien qu'il existe des différences selon les régions, les résultats seraient utiles pour élaborer des interventions visant à lutter contre la réticence face à la vaccination ou le refus à cet égard dans le pays.

أسباب تردد الآباء في تلقيح أطفالهم أو رفضهم للتلقيح في تركيا

تشيدام تكين، عائشة جوكش، جلوسيدا بوز، محمد أصلان، إسراء بيجيت

الخلاصة

الخلفية: على الرغم من أن اللقاحات تؤدي دورًا حاسمًا في مكافحة الأمراض المعدية وفاشيات الأمراض، فقد انخفضت معدلات التلقيح في السنوات الأخيرة بسبب التردد في أخذ اللقاحات أو رفضها.

الأهداف: هدفت هذه الدراسة إلى تحديد معدلات تردد الوالدين في تلقيح أطفالهم في تركيا ورفضهم ذلك.

طرق البحث: شارك 1100 شخص مختارون من 26 منطقة في تركيا في هذه الدراسة المقطعية التي أجريت في المدة بين يوليو/ تموز 2020 وأبريل/ نيسان 2021. وباستخدام استبيان، جمعنا بيانات عن الخصائص الاجتماعية والسكانية للآباء، وحالة التردد في تلقيح أطفالهم أو رفضهم لذلك، وأسباب التردد أو الرفض. وحللنا البيانات باستخدام برنامج Excel والإصدار 22.0 من برنامج SPSS، وأجرينا اختبار مربع كاي، واختبار فيشر الدقيق، والانحدار اللوجستي الثنائي.

النتائج: كان 9.4% فقط من المشاركين من الذكور، وتراوح أعمار 29.5% منهم بين 33 و37 عامًا. وأفاد ما يزيد على 11% بقليل أنهم يشعرون بالقلق بشأن تلقيح الأطفال، ويرجع ذلك في الأساس إلى المواد الكيميائية المستخدمة في تصنيع اللقاحات. وكان مستوى القلق أكبر لدى الذين حصلوا على معلومات عن اللقاحات من الإنترنت وأفراد الأسرة والأصدقاء والتلفزيون والإذاعة والصحف. وكان الذين استخدموا خدمات صحية تكميلية أكثر ترددًا بكثير بشأن التلقيح من أولئك الذين استخدموا الخدمات الرئيسية.

الاستنتاجات: ثمة أسباب عديدة لدى الوالدين في تركيا تدفعهم للتردد في تلقيح الأطفال أو رفضه، أهمها المخاوف بشأن التركيبة الكيميائية للقاحات وقدرتها على التسبب في حالات صحية سلبية مثل التوحد. وقد استخدمت هذه الدراسة عينة كبيرة من جميع أنحاء تركيا، ورغم وجود اختلافات حسب المنطقة، فإن النتائج ستكون مفيدة في تصميم التدخلات الرامية إلى مواجهة التردد في أخذ اللقاحات أو رفضها في البلد.

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