



Assessing Understanding of Caregivers on Immunization and Covid-19 Vaccines Using: A Survey Instrument

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Abstract

Background: Preventive medicine and immunization are crucial to preserve public health. In this study, it was aimed to determine the perspectives of the caregivers against the immunization services and awareness of the vaccine for the Covid-19 pandemic, which is the most critical challenge in nowadays. **Methods:** A questionnaire was administered to 205 parents about their knowledge and perceived on immunization and Covid-19 vaccines. Demographic characteristics of families, income and education levels, number of children and presence of Covid-19 vaccination of the parents were sought. **Result:** Majority of the parents (42%) believe that there are other ways to prevent diseases which can be prevented by a vaccine and 37% of them assume to get not enough information on vaccines. Thirty eight percent of parents presume the vaccine causes the diseases. It was found 70% of the parents assume that not be vaccinated is an individual right. It was observed that as the level of education of the parents increased, the rate of being aware of vaccines and getting them increased. **Conclusion:** It was concluded that majority of the parents believed that not getting vaccinated is an individual right. A significant number of parents were found to lack information about vaccines. Getting vaccinated is not an individual decision. To increase awareness of caregivers about vaccines can be achieved by providing accurate and appropriate information by health professionals and extended immunization programs to the public.

Keywords: vaccine; Covid-19 vaccine; immunization; public health

Introduction

Preventive medicine and immunization are crucial to preserve public health. Immunization saves up to three million lives annually [1]. Vaccines are available to protect against the infectious diseases, with many more in development country and play an important role in preventing illness and death in communities around the world. Vaccines have the potential to protect more than just the individual; known as community or herd immunity. Herd immunity occurs when enough people in a population are protected against an infectious disease to significantly interrupt the disease's transmission. Community immunity is particularly important for protecting the health of elderly, young children and individuals with compromised immune system, who may not be able to receive vaccines [2]. If most of the population is immunized, spread of the disease is constrained. Therefore, vaccines have a great role in the community health.

Although vaccines have a great importance, there are misconceptions lead to low vaccine coverage. Low vaccine coverage is caused by weak health systems, or the lack of necessary infrastructure or implementation to ensure that vaccines meet the populations that need them most [3]. These misconceptions make parents hesitant to get their children vaccinated, because they might fear that immunization could make their children sick. The common misconceptions are that: vaccines cause autism, vaccine cause the disease they are designed to prevent, the routine immunization schedule exposes children to too many pathogens and vaccines are

unsafe and more dangerous than the disease they are preventing [3,4]. To manage with the misconceptions, health professionals play a crucial role in communicating accurate information with parents and council about how vaccines can keep them healthy.

The Covid-19 infection has caused more than five hundred million confirmed cases and more than six million deaths so far [5]. There are no officially approved drugs to treat covid-19 disease. Mask, distance and hygiene are important for preventing spread of the disease. The vaccines are known to be only effective in creating a long-lasting immune memory to control infectious disease. While studies on Covid-19 vaccine are ongoing, the vaccine hesitancy or refusal for vaccine preventable disease reverses the progress made in fight for these diseases. Therefore, it is of great importance to evaluate the perspective of the society in this regard. In this study, we aimed to determine the perspectives of the caregivers against the immunization services and awareness of the vaccine for the covid-19 pandemic which is a challenging disease in nowadays.

Methods

This was a cross-sectional descriptive study from September through October 2021 conducted at University of Health Sciences Sancaktepe Ilhan Varank Training and Research Hospital, İstanbul, Turkey. The study protocol was approved by the University of Health Sciences institutional review board.

In this study, parents who applied to the paediatric outpatient clinic of our hospital for any reason were evaluated. A questionnaire

was administered to 205 parents about their knowledge and perceived on immunization and Covid-19 vaccines. Demographic characteristics of families, income and education levels, number of children and presence of Covid-19 vaccination of the parents were sought. The questionnaires were filled in by face-to-face interview method after informing the participants about the study and obtaining consent from the participants.

SPSS, Version 21, software (Chicago, IL, USA) was used to perform statistical analysis. Descriptive statistics were used to analyse demographic characteristics and data on perspectives of the caregivers. Content analysis method was used to evaluate the data at qualitative stage.

Results

In the one-year period, 205 parents were recruited in the study. One hundred seventy-four of them were mothers, 31 were fathers. Among them 42.4% (n:87) were between the ages of 30-39 and 48,8% (n:100) of mothers were housewives. Patient characteristic and clinical data were summarized in Table 1.

Table 1: Demographic characteristics of the caregivers

	Freq (n)	%
Gender		
Mother	174	84,8
Father	31	15,2
Age		
< 20 years	8	4
20-29 years	60	29
30-39 years	87	43
> 40 years	50	24
Work		
Employee	25	12
Official	23	11
Trade	8	4
Health Professional	32	16
Housewife	100	49
Others	17	8
Education		
Not Literate	8	4
Primary School	43	21
Secondary School	35	17
High School	55	27
University	64	31
Number of Vaccination		
Unvaccinated	43	21
One dose	23	11
Two doses	98	48
Three doses and more	41	20

Table 2: Perspectives of the caregivers on immunization and Covid-19 disease and vaccination

	Freq (n)	%
Do you believe there are other ways to prevent diseases by a vaccine?		
No	114	55,6
Yes	85	42,2
Not sure	3	1,4
Do you get enough information on vaccines?		
No	77	37,5
Yes	125	60,9
Not sure	3	1,4
Do you think vaccines cause the diseases?		
No	120	58,5
Yes	79	38,5
Not sure	6	2,9

Do you think that not be vaccinated is an individual right?		
No	55	26,8
Yes	144	70,2
Not sure	6	2,9
Do you believe Covid-19 disease is serious?		
No	8	3,9
Little	17	8,7
Mild	37	17,7
Severe	143	70,2
How much concern you have about Covid-19 vaccine?		
No	32	15,6
Little	55	26,8
Mild	66	32,1
Severe	52	25,3
How do you get information about Covid-19 vaccination?		
Internet	49	24
Television	59	29
The Ministry of Health	62	30
Newspaper	6	3
Radio	6	3
Others	23	11
Is there any financial relationship with the vaccine producer and health professional?		
No	115	56
Yes	62	30,2
Not sure	28	13,6

Majority of the parents (42%) believe that there are other ways to prevent disease which can be prevented by a vaccine. Thirty-seven of them assume to get not enough information on vaccines. Thirty-eight of parents presume the vaccine causes the disease. As a significant result, we found 70% of the parents believe that not be vaccinated is an individual right (Table 2). As the level of education of the parents increased, the rate of being aware of vaccines and getting them increased.

Almost all participants indicated that Covid-19 disease is serious however most of them have concern about the covid-19 vaccine. Half of them get information about covid-19 disease from social media. As an interesting result, 30,2% of the participants believe that there are financial relationships with the vaccine producer and health professional. Detailed information about perspectives of the caregivers on immunization and Covid-19 disease and vaccination are shown in Table 2.

Discussion

In this study, we found 70% of participant assume that not be vaccinated is an individual right. There is no certain judgement for mandatory vaccination. Mandatory vaccination is not necessary where high vaccination coverage in the community. However, vaccination may be mandatory if low vaccine coverage in the country.

As a result of vaccine refusal and immunization rates decreases, measles and pertussis have spread all over the world. Anti-vaxxer people could be transmission of the disease. The most common determinant of non-vaccination was the belief that vaccines are unsafe. More specifically, that they can cause severe diseases and side effects, that their long-term effects are unknown, that risks outweigh benefits, and that they contain dangerous adjuvants. Also noted was a lack of information and knowledge about either the vaccine or the disease, which sometimes led to misperceptions about vaccination or targeted diseases [3].

The Vaccine European New Integrated Collaboration Effort (VENICE) was designed in 2004 with the aim of establishing a

European network of experts with experience of working in national immunization program [6]. In 2010, the VENICE network conducted a survey among the VENICE project gate-keepers to learn more about how national vaccination programs are implemented, whether recommend or mandatory. Information was collected from all twenty-seven European member states, Iceland and Norway. The aim of the project is to encourage collection and dissemination of knowledge and best practice relating to vaccination and to further develop collaboration and partnership between member states. In this report, sixteen countries do not have any mandatory vaccination, the remaining thirteen have at least one mandatory vaccination included in their program [6]. In our country, Turkey, vaccination is not mandatory. It depends on the decision of parents.

Some European countries have recently gotten rules for wide ranging Covid-19 vaccine mandates, but such major obligations also exist in Latin America and Asia. The obligation to be vaccinated against Covid-19 exists for adults in Tajikistan, Turkmenistan and Vatican City which were the first countries to introduce these mandates. Indonesia and Micronesia followed later, as well as Ecuador, which mandates coronavirus vaccination for everyone above the age of five. In Costa Rica it is eligible minors for whom coronavirus vaccine are mandatory. Austria's new law that mandates all adults to be vaccinated against coronavirus. Italy and Greece approved for mandatory vaccines among at risk age groups These are designed as those over the age of 60 in Greece and those over the age of 50 in Italy [7].

The huge number of publications addressing Covid-19 vaccine hesitancy necessitates periodic review to provide a concise summary of Covid-19 vaccine acceptance rates worldwide. In the study of Sallam et al., data on Covid-19 vaccine acceptance rates were retrieved from surveys in 114 countries/ territories. Covid-19 vaccine acceptance rates $\geq 60\%$ were seen in 72/114 countries/territories, compared to 42 countries/territories with rates between 13% and 59% [8]. In Western/Central Europe and North America, the highest rates were reported in Canada (91%) and Norway (89%), while the lowest rates were reported in Cyprus and Portugal (35%). The phenomenon of Covid-19 vaccine hesitancy appeared more pronounced in the MENA, Europe and Central Asia, and Western/Central Africa [8].

Health professional are among patient's most trusted sources for medical information. Therefore, communicating accurate information and council about how vaccines can keep them and their loved one healthy is crucial. When having a conversation with patients about vaccines, it is important that health professionals effectively address concerns and convey the benefits of immunization. Research shows that presume patients will get vaccinated, rather than asking a patient how they feel about immunization, are more effective. It is crucial that respond to concern with positive messages about vaccines, information debunking myths. Like any medication, vaccines can cause side effects. Health professional should be truthful with patients about the risks, but emphasize that delaying or skipping vaccines is riskier than getting vaccinated. Even is a patient does not accept vaccine during are visit, they may in the future. So, health professionals can provide additional resources about vaccines. National immunization programs have to be strengthened to develop the capacity to identify local determinants of vaccine hesitancy. Healthcare workers need to develop strategies which are adapted to address these determinants, in patient's own social, cultural, political and economic context [3].

Conclusion

The majority of parents believe that not be vaccinated is an individual right. A significant number of parents were found to lack information about vaccines. Being vaccinated is not an individual decision. To increase awareness of caregivers about vaccine can be achieved by providing accurate and appropriate information by health professionals and extended immunization programs to the

public. More studies are recommended address intentions of the general public to get immunization and Covid-19 vaccination.

Consent for publication

Written informed consent for publication of the caregivers was obtained.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

Gözde ERCAN contributed to design of manuscript, participated in collection of the data and survey, analyse of the data and writing the manuscript. Meryem Ozdemir contributed to collect data and surveys and reviewing the manuscript. Sirin Guven contributed in design of the study and reviewing the manuscript.

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