

RESEARCH ARTICLE

Evaluation of Vocational School of Health Services Students' Opinions on Vaccine and The Importance of Vaccine

Canan Yenitürk Baydar¹(ID) , Gulum Sargin²(ID) , Canan Demir³(ID)

¹Van Yüzüncüyıl University, Vocational School of Health Services, Van, Turkey

Received: 04 April 2022, Accepted: 25 April 2022, Published online: 30 April 2022

© Ordu University Institute of Health Sciences, Turkey, 2022

Abstract

Objective: Vaccination is one the most effective, reliable and very low-cost method of protection in protecting human health and preventing epidemics. Strengthening the immune system against infectious diseases is the right of every human being. Vaccination is one of the most important preventive practices from past to present in terms of protecting public health. In this study, it was aimed to determine the opinions of Van Yuzuncu Yıl University (YYU) Vocational School of Health Services students about the importance of vaccine and vaccine in vaccine preventable diseases, their attitudes towards vaccination and their vaccination status.

Method: This descriptive study is a questionnaire consisting of 20 questions prepared to evaluate the opinions of the students studying at Van YYU Health Services Vocational School in the 2021-2022 academic year about the vaccine and its importance. Descriptive statistics: It was expressed as numbers and percentages for categorical variables, and as mean and standard deviation for continuous variables.

Results: 54.5% of the participants think that their knowledge about the vaccine is not sufficient, 40.4% think that the vaccine is not effective enough to protect against diseases, and 70.4% think that the vaccine is not effective in eliminating epidemics completely. 69.4% of the participants stated that they were hesitant about getting vaccinated, and 85.2% stated that vaccines had side effects.

Key Words: Vaccine, Importance of vaccine, Questionnaire, Student opinions.

Sağlık Hizmetleri Meslek Yüksekokulu Öğrencilerinin Aşı ve Aşının Önemi ile İlgili Görüşlerinin Değerlendirilmesi Özet

Amaç: Aşı, insan sağlığını koruma ve salgın hastalıkları önlemede en etkili, güvenilir ve oldukça düşük maliyetli koruma yöntemlerinden biridir. Bulaşıcı hastalıklara karşı bağışıklık sisteminin güçlendirilmesi her insanın hakkıdır. Aşılama, toplum sağlığının korunması açısından geçmişten günümüze en önemli koruyucu uygulamalardan biridir. Bu çalışmada Van YYU Sağlık Hizmetleri Meslek Yüksekokulu öğrencilerinin aşıyla önlenebilen hastalıklarda aşı ve aşının önemi ile ilgili görüşlerinin, aşılanmaya olan tutumlarının ve aşı durumlarının belirlenmesi amaçlanmıştır.

Yöntem: Tanımlayıcı tipteki bu çalışma, Van YYU Sağlık Hizmetleri Meslek Yüksek Okulunda 2021-2022 eğitim öğretim yılında öğrenim gören öğrencilerin, aşı ve aşının önemi hakkındaki görüşlerinin değerlendirilmesine yönelik hazırlanan, 20 sorudan oluşan anket çalışmasıdır. Tanımlayıcı istatistikler; Kategorik değişkenler için sayı ve yüzde olarak, sürekli değişkenler için ise ortalama ve standart sapma olarak ifade edilmiştir.

Bulgular: Katılımcıların %54,5'inin aşı hakkında bilgilerinin yeterli olmadığını, %40,4'ünün hastalıklara karşı korunmada aşının yeterince etkili olmadığını, %70,4'ü salgın hastalıkları tamamen ortadan kaldırmada aşının etkili olmadığını düşünmektedir. Katılımcıların %69,4'ü aşı yaptırmada konusunda tereddüt yaşadığını, %85,2'si aşıların yan etkisi olduğunu belirtmiştir.

Sonuç: Katılımcılarda aşıların önemi ve güvenilirliğine ilişkin tereddütlerin beklenenin aksine yüksek düzeyde olduğu belirlenmiştir. Öğrencilerin çoğunun aşı ve aşının önemi ile ilgili bilgilerinin yetersiz olduğu görülmüştür.

Anahtar Kelimeler: Aşı, Aşının önemi, Anket, Öğrenci görüşleri.

Suggested Citation: Yenitürk Baydar C, Sargin G, Demir C. Evaluation of Vocational School of Health Services Students' Opinions on Vaccine and The Importance of Vaccine. ODU Med J, 2022; 9(1):13-20

Copyright@Author(s) - Available online at <https://dergipark.org.tr/tr/pub/odutip>

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.



Address for correspondence/reprints:

E-mail: cananbaydar@yyu.edu.tr,

Canan Yenitürk Baydar

Telephone number: +90 (541) 447 31 27

Introduction

Vaccination is the most effective, safe and cost-effective method for protecting human health and preventing epidemics. Strengthening the immune system against infectious diseases is the right of every human being (1). The first target in vaccination services; It is to prevent the existence of vaccine-preventable diseases in the society, especially in infants and children, and thus to prevent deaths and disabilities that may occur as a result of these diseases. Immunization studies carried out for this purpose should reach the entire society and should also be at the highest level in terms of quality. Immunity can be acquired in two ways, active and passive. Active immunity is a specific immunity that occurs with a certain disease or vaccines. The antigen or mixture of antigens used to achieve active adaptive immunity is called a vaccine. A certain amount of time is needed for the development of active immunity induced by the vaccine. Thus, the acquired immunity usually lasts for a long time. Passive immunity is obtained by taking antibodies (immunoglobulins) from humans or animals. The duration of immunity provided by this method is short, and may vary from a few weeks to a few months, depending on the level of immunoglobulin taken (2). An effective immunization, together with the prevention of infectious diseases in childhood, ensures the controllability of the same diseases in later life. The inclusion of new vaccines in the national program in line with new developments and information makes significant contributions to public health (3).

Getting the desired response after vaccination depends on more than one factor. In addition, the content of the vaccine, the age of the person receiving

the vaccine and the immune status are known as the most important factors (4).

In this study, it was aimed to determine the opinions, attitudes, and vaccination status of Van YYU Vocational School of Health Services students about the vaccine and the importance of the vaccine in vaccine preventable diseases.

Materials and Methods

Type of research

The research is a descriptive study.

Place and time of research

The questionnaire form prepared in line with the purpose of the study, between February-March 2022 in the 2021-2022 academic year, Van YYU Vocational School of Health Services; It was conducted by using face-to-face interview technique on 2nd year students studying in Anesthesia, Child Development, Dialysis, Disabled Care and Rehabilitation, First and Emergency Aid, Radiotherapy, Medical Laboratory, Medical Imaging, Elderly Care programs.

Population and Sample of the Research

A total of 297 volunteer students who were at the school on the day of the study and agreed to participate in the study were included in the study.

Data Collection Tools

The questionnaire form prepared by the researchers was applied to the students who accepted the study after the permission of the relevant lecturer was taken at the end of the course and after it was explained that they did not name names under observation. 4 of the questions include the socio-demographic characteristics of the participants, and 20 of them include the opinions of the participants about the vaccine and its importance. In the prepared question form; age, gender, the program he attended, the college he graduated from, general

information about vaccines, whether the vaccines are effective enough to protect against diseases, information about the current vaccine calendar, the side effects of vaccines, the effects of vaccines in preventing infectious diseases from turning into epidemics, Opinions on the control of Covid-19 disease with vaccines and there are questions about the content and safety of the vaccines.

Statistical analysis

Descriptive statistics; It was expressed as numbers and percentages for categorical variables, and as mean and standard deviation for continuous variables. Chi-square test was used to determine the relationship between categorical variables. Statistical significance level was taken as $p < 0.05$ in calculations and SPSS (ver:13) statistical software was used for calculations

Results

Socio-demographic characteristics of the participants were examined.

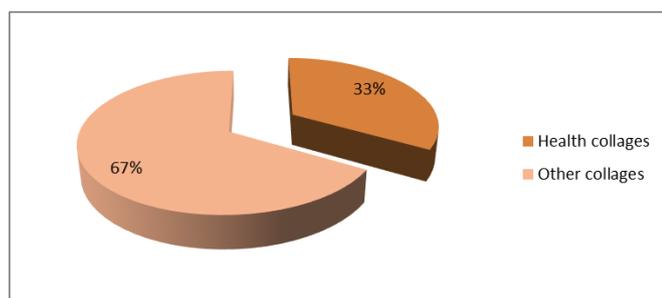
When Table 1 is examined; 68% of the participants were female, 32% were male, and 84.5% were between the ages of 18-22. 33.3% of them graduated from health collage and 66.7% of them graduated from other colleges (Graph 1). 5.4% Elderly Care Services, 5.4% Child Development, 2.4% Medical Laboratory Techniques, 13.5% Medical Imaging Techniques, 7.1% Radiotherapy, 15.8% Anesthesia, 13.1% Dialysis, 3.4% of them are studying in the Disability Care and Rehabilitation and 34% of them are studying in the First and Emergency Aid program (Graph 2).

The distribution of responses regarding the vaccine and its importance is given in Table 2. When Table 2 is examined; To the question “Do you believe that your knowledge about vaccines is sufficient?”, 54.5% of the participants answered “No”, 25.6% “Yes” and 19.9% “I am undecided”. “Are vaccines effective enough to

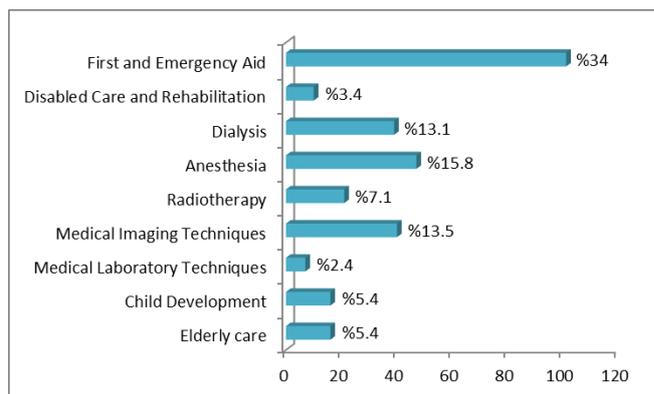
protect against diseases?” 40.4% of the participants answered “No”, 33.7% as “I am undecided” and 25.9% as “Yes” to the question. “Do you have information about the current vaccination schedule of the Ministry of Health?” To the question, 63% of the participants answered “No”, 32.3% “Yes” and 4.7% “I am undecided”. “Do you think vaccines have side effects?” To the question, 85.2% of the participants answered “Yes”, 7.7% with “I am undecided” and 7.1% with “No”. “Are vaccines effective in preventing infectious diseases from turning into epidemics?” 55.9% of the participants answered “Yes”, 27.9% as “I am undecided” and 16.2% as “No” to the question. “Do you think it is necessary to vaccinate adults with chronic diseases (who are at risk)?” To the question, 71.4% of the participants answered “Yes”, 16.8% “I am undecided” and 11.8% “No”.

Table 1. Socio-demographic characteristics of the participants

	n	%
Gender		
Male	95	32
Female	202	68
Age range		
18-22	251	84.5
23-26	42	14.1
>27	4	1.3
Health college graduated from		
Health college	99	33.3
Other college	198	66.7
Program studied		
Elderly care	16	5.4
Child Development	16	5.4
Medical Laboratory Techniques	7	2.4
Medical Imaging Techniques	40	13.5
Radiotherapy	21	7.1
Anesthesia	47	15.8
Dialysis	39	13.1
Disabled Care and Rehabilitation	10	3.4
First and Emergency Aid	101	34



Graph 1. Distribution of participants by health college and other colleges



Graph 2. Distribution of the participants according to the program they studied

Table 2. Distribution of responses about the vaccine and its importance

	Yes	No	undecided
1 Do you believe that your knowledge about vaccines is sufficient?	76 (%25.6)	162 (%54.5)	59(%19.9)
2 Are vaccines effective enough to protect against diseases?	77(%25.9)	120(%40.4)	100(33.7)
3 Do you have information about the current vaccination schedule of the Ministry of Health?	96(%32.3)	187 (%63)	14(%4.7)
4 Do you think vaccines have side effects?	253(%85.2)	21(%7.1)	23(%7.7)
5 Are vaccines effective in preventing infectious diseases from turning into epidemics?	166(%55.9)	48(%16.2)	83(%27.9)
6 Do you think it is necessary to vaccinate adults with chronic diseases (who are in the risk group)?	212(%71.4)	35(%11.8)	50(%16.8)
7 Do you think that vaccination with alternative methods (by keeping the immunity strong) may not be necessary?	118(%39.7)	115(%38.7)	64(%21.5)
8 Have you ever been vaccinated as an adult?	275(%92.6)	18(%6.1)	4(%1.3)
9 Do you think the vaccine is necessary for children?	196(%66)	66(%22.2)	35(%11.8)
10 Do you think childhood infectious diseases can cause death or disability?	230(%77.4)	26(%8.8)	41(%13.8)
11 Have epidemic diseases been completely eradicated thanks to vaccines?	22(%7.4)	230(%77.4)	45(%15.2)
12 Do you believe that the Covid-19 disease, which has taken the world under its influence, is under control with a vaccine?	58(%19.5)	171(%57.6)	68(%22.9)
13 Would you recommend to your friends to get the Covid-19 vaccine?	172(%57.9)	70(%23.6)	55(%18.5)
14 Have you ever had any hesitation about getting vaccinated?	206(%69.4)	77(%25.9)	14(%4.7)
15 Do you think it is necessary to get vaccinated before traveling abroad?	190(%64)	69(%23.2)	38(%12.8)
16 Do you think that vaccines contain harmful substances?	131(%44.1)	62(%20.9)	104(%35)
17 Have you been vaccinated to protect yourself from Covid-19?	285(%96)	8(%2.7)	4(%1.3)
18 Do you believe vaccines are safe?	115(%38.7)	68(%22.9)	114(%38.4)

“Do you think there may be no need to vaccinate with alternative methods (keeping immunity strong)?” To the question, 39.7% of the participants answered “Yes”, 38.7% “No” and 21.5% “I am undecided”. “Have you ever been vaccinated as an adult?” 96.2% of the participants answered “Yes”, 6.1% as “No” and 1.3% as “I am undecided”. “Do you think the vaccine is necessary for children?” To the question, 66% of the

participants answered “Yes”, 22.2% “No” and 11.8% “I am undecided”. “Do you think childhood infectious diseases can cause death or disability?” 77.4% of the participants answered “Yes”, 13.8% “I am undecided” and 8.8% “No” to the question. “Has the epidemics been completely eradicated thanks to the vaccine?” To the question, 77.4% of the participants answered “No”, 15.2% as “I am undecided” and 7.4% as “Yes”. “Do you

believe that the Covid-19 disease, which has taken the world under its influence, is under control with a vaccine?" 57.6% of the participants answered "No", 22.9% "I am undecided" and 19.5% "Yes" to the question. "Would you recommend your friends to get the Covid-19 vaccine?" 57.9% of the participants answered "Yes", 23.6% "No" and 18.5% "I am undecided". "Have you ever had any hesitation about getting vaccinated?" 69.4% of the participants answered "Yes", 25.9% as "No" and 4.7% as "I am undecided". "Do you think it is necessary to get vaccinated before traveling abroad?" To the question, 64% of the participants answered "Yes", 23.2% "No" and 12.8% "I am undecided". "Do you think that vaccines contain harmful substances?" 44.1% of the participants answered "Yes", 35% "I am undecided" and 20.9% "No" to the question. "Have you been vaccinated to protect yourself from Covid-19?" To the question, 96% of the participants answered "Yes", 2.7% as "No" and 1.3% as "I am undecided". Of those who answered negatively to this question, 1.3% stated that they did not trust the Covid-19 vaccine, 1.2% stated that the lack of information, the ineffectiveness of the vaccine, its content and side effects were not known enough. "Do you believe the vaccines are safe?" 38.7% of the participants answered "Yes", 38.4% "I am undecided" and 22.9% "No" to the question. 24.2% of the participants stated that they do not believe that vaccines are safe in general. 10.4% of these are due to insecurity, 5.4% to lack of information, 4.4% to not knowing clearly the content of the vaccine, 0.7% to fear of death, 0.3% to mandatory vaccination, 0.3% thought it was the manipulation of the USA, 0.3% stated that they did not trust vaccines due to the increase in cases.

There was no statistically significant correlation in the comparisons made according to the vaccination and the importance of the vaccine and the collage, gender and departments of the participants.

Discussion

Vaccination is one of the most important medical practices in terms of protecting public health from the past to the present. It is one of the most effective methods of preventing the prevention and spread of infectious diseases. Adult immunization is a current problem in all countries of the world as well as in our country. This problem arises from deficiencies in the lack of childhood vaccinations, the lack of long-term efficacy of some vaccines, and the insensitivity of adults to vaccination. Some professions (such as health workers), trips to home and abroad, advanced age, low immunity, such as the risks posed by conditions, make it mandatory for certain vaccinations to be made available to adults. In addition, by preventing diseases with serious complications with vaccination, it can reduce the financial burden that these diseases may cause (5).

The main way to protect against all infectious diseases is to educate individuals. In terms of infectious diseases, health personnel are 10 times more at risk than other. Therefore, protection-related training must first be given to medical personnel (6). Artan and Gülezer researched that 81.9% of the students had sufficient knowledge levels related to infectious diseases and this source of information was the school (7). In the study conducted by Kılıç et al., 78.4% of the students, and in the study by Gündüz et al. 62% stated the school as the first source of information (6,8). Considering that students receive their knowledge about infectious diseases from the school, it is very important to

eliminate deficiencies in transmission methods, prevention methods and risk groups. Cetin and his colleagues found that students experienced serious doubts about the reliability of vaccines, graduating with a distinct confusion about ways to prevent infectious diseases and traditional treatment methods (9).

A study of 735 university students on a possible Covid-19 vaccine during the Covid-19 pandemic in Italy reported that 633 (86.1%) students would agree to be vaccinated, while 102 (13.9%) were undecided about the vaccine and would not get vaccinated. It has been observed that there are more students who want to get vaccinated than those who study in different departments. It is thought that this may be due to the fact that their knowledge of the vaccine is adequate and public health protection awareness has developed (10).

In a study aiming to determine anti-vaccination in Antalya, 6.2% of the participants defined themselves as being anti-vaccine, and their reasons for this were respectively; side effects of vaccines (65%), harmful substances in vaccines (25.8%), thought that vaccines are not useful (19.4%), distrust of vaccine companies (6.4%), and vaccines causing sterility (3.2%) has been thought. (11). In another study, a high rate of fear of side effects and distrust of the ingredients were found to be the reason for not getting the vaccine. The reason for the mistrust of the vaccine may be that the vaccine, which has gained popularity recently, contains substances such as thiomersal (compound containing mercury), aluminum, and it is rumored that these cause autisms. Tiomersalin, which is found in vaccines with multiple doses, was removed from the vaccine content in 2001 in order to increase vaccine compliance and confidence, although it does not accumulate in the body and has proven to be reliable. In addition, aluminum contained

in the vaccine content is considered to be very low risk for infants and the benefits of its addition to the vaccine are much greater than its known harms (12,13).

Conclusion

Although the value of vaccines has been demonstrated in the fight against pandemics that threaten the health of the society, vaccination rates may decrease due to the fact that some people experience vaccine hesitation (14, 15). This situation is seen as a serious public health problem and policies are tried to be developed and solutions are offered (16). It is stated that the reasons for refusing the vaccine, experiencing vaccine hesitancy, and delaying the vaccine are various (17). Although vaccine-preventable diseases in particular threaten public health, it is stated that the issue should be addressed in different dimensions in order to avoid vaccine hesitation (18,19).

In this study, it was determined that doubts about the importance and reliability of vaccines were higher than expected. It has been observed that most of the students have insufficient knowledge of the importance of vaccines and vaccines. This result shows that students should be informed about the vaccine and its importance. In order for students to enlighten the individuals who will apply to them in their professional lives, the courses related to vaccination must be added to the curriculum. The relevant higher education curriculums should be reviewed in a way that not only provides information on vaccine issues, but also the right attitude and awareness. Students should at least go to the "health worker vaccination unit" of the institution where they are interning during their education and participate in the applications and learn about their vaccinations will also be effective in reducing vaccine hesitation. Necessary trainings should be given for

students who are studying outside of health. The inclusion of safety data related to these vaccines applied in Turkey for many years in the educational contents prepared by the Ministry of Health will contribute to the elimination of vaccine instability and opposition based on side effects in health students, health workers and society as a whole. Health workers play an important role in solving the growing anti-vaccination problem in society. Indecision by health workers in person prevents them from this role. Given that this indecision occurs largely during university years, extensive investigations into the causes of vaccine instability in health students are needed. Seminars and conferences can be created and education can be provided for these students. In addition, brochures, catalogs or educational materials can be prepared and distributed to students and students may be interested in this subject. Although it is seen that the students' confidence in the vaccination policies of the Ministry of Health and the testing period of vaccines in Turkey has increased during the study period, we believe that this increase is not enough.

Ethics Committee Approval: Ethics committee approval was received for this study from Van Yüzüncü Yıl University Non-Interventional Clinical Research Ethics Committee (Decision no: 2022/02-07, Date: 11.02.2022).

Peer-review: Externally peer-reviewed.

Author Contributions:

Concept: CYB, GS. Design: CYB, GS. Literature search: CYB, GS. Data Collection and Processing: CYB, GS. Analysis or Interpretation: CD Written: CD

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study hasn't received no financial support.

References

1. Arisoy ES, Ceyhan M, Ciftci E, Hacimustafaoglu M, Kara A, Kuyucu N, et al. The national vaccination Schedule in previously healthy children: the practical recommendations about additional vaccines. *J Pediatric Inf*, 2014; 8(1): 1-6.
2. Tezcan S, Yigit EK. Vaccination and Child Health, Hacettepe University Institute of Population Studies Turkish Demographic and Health Survey. 2003; 131-141.
3. Vitrinel A, Erdag GC. Vaccine application principles. *Turkish Journal of Family Medicine* 2007;11(4):149-153.
4. Yalcin SS. Does analgesic prophylaxis affect post-vaccine fever reaction frequency and vaccine antibody response? *Journal of Child Health and Diseases*. 2010; 53: 1-3.
5. Guner E. Determination of Vaccination Preventable Diseases and Vaccination-Related Awareness and Vaccination Status of Healthcare Professionals. İzmir Southern Region Public Hospitals Union Health Sciences University Bozyaka Training and Research Hospital Family Medicine Department, 2016; Izmir.
6. Gunduz T, Altiparmak S, Karadeniz G. Knowledge levels of college students about sexually transmitted diseases. *Journal of Viral Hepatitis*, 2004;2:93-98.

7. Artan M, Güleser G. Evaluation of Health School Students ' Knowledge Levels on HIV / AIDS, Hepatitis B Virus and Hepatitis C Virus. *Erciyes Medical Journal*, 2006;28 (3):125-133.
8. Kilic S, Acikel C, Kir T, Ogur R, Ucar M. Knowledge levels and attitudes of health non-commissioned officer vocational school students about HIV/AIDS. *TAF Preventive Medicine Bulletin*, 2004; 6:111-118.
9. Cetin AO, Sasmaz A, Kurtuluş D, Badur I, Balkan II, Owiwi M. Vaccination Hesitancy in Health Students *Anadolu Clinic Journal of Medical Sciences*, September 2021; 26(3).
10. Barello S, Nania T, Dellafiore F, Graffigna G, Caruso R. ' Vaccine hesitancy ' among university students in Italy during the COVID-19 pandemic. *Eur J Epidemiol*, 2020; 35(8):781-3. doi:10.1007/s10654-020-00670-z.
11. Türkay M, Ay EG and Aktekin MR. Anti - Vaccine Status in a Selected Groups in Antalya. *Akdeniz Medical Journal*, 2017;2:107–112. doi:10.17954/amj.2017.78.
12. Mitkus RJ, King DB, Hess MA, Forshee RA and Walderhaug MO. Updated aluminum pharmacokinetics following infant exposures through diet and vaccination. *Vaccine*, 2011; 29(51): 9538–9543. doi: 10.1016/j.vaccine.09.124.
13. CDC. Thimerosal in Vaccines Thimerosal Concerns Vaccine safety (Online). Available: <https://www.cdc.gov/vaccinesafety/concerns/thimerosal/index.html>. Accessed: 04-Jan-2020.
14. Black S, Rappuoli P. A. Crisis of Public Confidence in Vaccines. *Science translational Medicine*, 2010;2(61):61. doi: 10.1126/Scitranslmed.3001738.
15. Leask J, Kinnersley P, Jackson C, Cheater F, Bedford H, Rowles G. Communicating with parents about vaccination: a framework for health professionals. *BMC Pediatr*. 2012; 12:154.
16. Larson HJ, Jarrett C, Eckersberger E, Smith DM, Paterson P. Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature. *Vaccine*, 2014; 32(19): 2150–2159. doi: 10.1016/j.vaccine.2014.01.081.
17. Cooper LZ, Larson HJ & Katz SL. Protection Public Trust in Immunization. *Pediatrics*, 2008; 122(1): 149–153. doi:10.1542/peds.2008-0987.
18. Dube E, Laberge C, Guay M, Bramadat P, Roy R, Bettinger JA. Vaccine hesitancy: an overview. *Human Vaccines & Immunotherapeutics*, 2013;9(8),1763–1773. doi:10.4161/hv.24657.
19. Larson HJ, Cooper LZ, Eskola J, Katz SL & Ratzan S. Addressing the vaccine confidence gap. *The Lancet*, 2011;378(9790):526–535. doi:10.1016/s0140-6736(11)60678-8.