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Assessment of COVID 19 Post- Vaccine Side Effects among People Attending Al- Sheikh Zayed Hospital in Baghdad

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Abstract:

Background: Vaccines in general are save lives of population, it is providing strong protection against serious illness and death. COVID-19 vaccine could decrease mortality rate caused by infection. WHO reports that unvaccinated people have at least 10 times higher risk of death from COVID-19 than somebody who has been vaccinated.

Objectives: The study aimed to assess post vaccine side effect to identify its safety on the community health, and to identify the relationship between post vaccine side effect and sociodemographic characteristics of vaccinated people attending AL-Sheikh Zayed Hospital in Baghdad.

Methodology: A cross-sectional design was employed to achieve the objectives of the study for the period from 15 May to 15 March 2022. A purposive sample of (224) individual is vaccinated at Al- Sheikh Zayed Hospital in Baghdad. The data for this study was collected by using assessment test scale, which consists of two parts, were designed to measure post vaccine side effect of vaccinated people. First Part was designed to measure the participant's socio-demographic characteristics, and clinical history. Second Part was developed to measure post vaccine side effect. It contains 28 items divided into 14 items for each dose of vaccine first and second. Each question scored into four levels (1) for never answer, (2) for mild answer, (3) for moderate answer and (4) for sever answer. A good validity and reliability in a number of studies. The validity of the questionnaire was tested by presenting it to (10) experts in medical field. The reliability of the instrument was tested by using data for 10 vaccinated individuals who were excluded from the study sample. Cronbach's alphas test was calculated to determine the internal consistency of the study instrument. The overall internal consistency for the questionnaire was accepted which recorded: α=0.84.

Results: Related age groups the majority of participants in the study are between age 26- 35 year- old (38.4%). Related body mass index, overweight recorded (44.2%), normal weight (31.7 %) of participants. concerning gender (52.7%) are male, and (47.3%) are female. Regarding level of education majority of participants are in college level (62.9%) and institution (16.1%). Associated with medical history people diagnosed with hypertension documented (16.5%) and diabetes mellitus recorded (12.5%) from all participants. Related assessment of post vaccine side effects, majority of vaccinated people recorded never side effects (81.3%), rather than (14.3%) recorded mild symptoms. Associated with second dose (78.6%) of participants documented never side effects and (20.1%) of them recorded mild

symptoms. Regarding with correlation between post vaccine side effect and sociodemographic characteristics of vaccinated people after first dose, there is a correlation between post vaccine side effects and both age and hypertension. Regarding second dose there is a strong negative correlation between post vaccine side effects and age.

Conclusion:

The result of the study shows that both first and second doses of all vaccine, which, are currently used in Iraq, are safe and don't produce serious or sever symptoms. In general majority of vaccinated people do not have any symptoms and few of them have mild symptoms and do not effected on their daily living.

Recommendations:

1. Conducting additional studies to acquire more knowledge related of COVID - 19 vaccine.
2. Create an educational program to increase health awareness among people, related fear or/and hesitancy of vaccination to encourage them taking vaccine.

Keywords: Assessment, Post vaccine Side- Effects, covid-19.

INTRODUCTION

Covid-19 has been appeared in the end of 2019 in Wuhan city one of the states of china and dramatically become the most important public health problem around world. It kill many thousands of population at a few period in many countries worldwide and affected many dimensions of life such as social, economic, psychological and other life aspects [(1)].

Elementary studies recorded that, the origin of corona virus was bats, then developed to be infected the human. The main method of transmission among population through contact and droplet. The fatality rate due to covid-19 infection are different among age groups and counties. It is required to control an outbreak of infection by produce vaccine as fast as possible to limited rapid prevalence of infection and minimize mortality rate [(2)].

Many studies related pandemic influenza, and other outbreaks of viral infections has obvious that is an epidemic may be evolves and need to develop public health activities to explain the epidemiology of the version virus, its characteristics and its effect on the life of population. The impact of an epidemic dependent on the number of infectious people, the infection's transmissibility and the series of clinical severity [(3)]. Therefore, many experiences have focused on showing the clinical course, calculating severe cases, and curing the patients [(4)].

COVID-19 related statistics showed that fatality rate about 6.3, but it was different among age groups and regions. According to early models total 10-12 weeks is required to control an outbreak in the community. While different countries show different daily case numbers, every day we should update new data about the prevalence of pandemic of COVID-19 to create appropriate plans to control separated of infection [(5)].

There is an urgent need to produce safe and effective vaccine to immunize as large as possible number of population to protect the entire global society from the serious of morbidity and mortality from severe corona virus [(6)].

Vaccinations become the most important public health intervention for reducing the spread and harm caused by dangerous diseases and complications, many studies showed that vaccine hesitancy was higher in women, younger age groups and those with lower education levels [(7)].

The study that conducted in America related acceptance of COVID-19 vaccine shows that the acceptance of vaccine among large number of population dependent on demographic and

geographical factors. Thus, it is recommended for public health officials, policymakers to work seriously, and focuses on clarify the positive effective of COVID-19 vaccine to prevent or at least minimize symptoms and safe life for all population especially those who are most vulnerable [8].

According to the world health organization by collected a global image of vaccine hesitancy during three years of available data the finding shows that there is a variation related vaccine hesitancy around world due to many reasons such as socioeconomic, level of education, fear from complications and other causes. WHO recommended that each country should develop strategically plans to elevate acceptance of vaccination by encourage community and increase confidence toward vaccination [9].

The seriousness of covid-19 emerges among old age people who have chronic diseases such as hypertension, diabetes mellitus, chronic respiratory and other health problems that affect negatively on immune system and present complications. In addition to that, mutilations of virus produce confusion related management of infection that increase complications and mortality rate [10].

Most (90.9%) of reports related covid-19 vaccine recorded that there is no serious events related local and systemic symptoms, only temporary systemic and/or local reactions were reported in the study [11].

Vaccinated adults people related study shows that all COVID-19 vaccines have local symptom such as pain, redness and swelling, as well as systemic such as fever, chills and myalgia that considered as a normal limited treatable reactogenicity and reflects a typical inherent immune response to antigen exposure [12].

Aims of the Study

The study aimed to assess post vaccine side effect to identify its safety on the community health, and to identify the relationship between post vaccine side effect and sociodemographic characteristics of vaccinated people attending AL-Sheikh Zayed Hospital in Baghdad.

METHODOLOGY

Design of the study:

This study used a descriptive cross-sectional design to assess post vaccine side effect to identify its safety on the health and to identify the relationship between post vaccine side effect and sociodemographic characteristics of age, gender, level of education and body mass index. as well as, medical history include hypertension, diabetic, heart disease, chronic obstructive pulmonary disease and asthma of vaccinated people attending Al-Sheikh Zayed Hospital in Baghdad.

Sampling:

The target population for this study were the vaccinated people and employees at Al- Sheikh Zayed Hospital in Baghdad. Total of (224) individuals purposively selected and participated in the study. The exclusion criteria include those individuals who did not agree to participant in the study and those who did not receive two doses of vaccine.

Instrumentation and data collection:

The data for this study was collected by using assessment tool. This scale consists of two parts were designed to assess post vaccine side effect as follow:

Part 1: This part was designed to measures the participant's socio-demographic characteristics and medical history, which consisted (9) items.

Part 2: This part was developed to assess post vaccine side effect. It is consisted of 28 items in multiple question format. Questions related post vaccine side effects included 14 questions for each dose first and second. Each question has four scores (1) for never answer, (2) for mild answer, (3) for

moderate answer and (4) for sever answer respectively.

After obtaining the informed consent, the data were collected from the participant by interview method. Each interview takes about 5 to 10 minutes.

Validity and reliability of instrument:

The instrument established a good validity and reliability in a number of studies. The validity of the questionnaire was tested by presenting it to (15) experts in the medical fields. According to the expert's recommendations some items were changed and other were modified.

The reliability of the instrument was tested by using data from 10 vaccinated people who were excluded from the study. Cronbach's alphas were calculated to determine the internal consistency of the study instrument. The overall internal consistency for the questionnaire was acceptable: α=0.87.

Data analysis:

Frequency and percentage was calculated to describe sociodemographic characteristics and medical history of participants of the study. Pearson correlation coefficient was used to calculate the correlation between post vaccine side effect and participant's sociodemographic characteristics. Data was analyzed by using Statistical Package for Social Science (SPSS) for windows version 25.

RESULTS

Table 1: The Sociodemographic Characteristics, and Medical History of the Study Participants

Sociodemographic Characteristics		Item	Sample (n =224)	
			F	%
Anthropometric Characteristics	Age	15-25 year- old	46	20.5
		26-35 year- old	86	38.4
		36-45 year- old	44	19.6
		46-55 year- old	32	14.3
		56-65 year- old	9	4.0
		66 and above	7	3.1
	BMI	Underweight = <18.5	5	2.2
		Normal weight = 18.5–24.9	71	31.7
		Overweight = 25–29.9	99	44.2
		Obesity class I = 30-34.9	36	16.1
		Obesity class II =35-39.9	9	4.0
		Obesity class III =40 above	4	1.8
	Gender	Male	118	52.7
		Female	106	47.3
	Educational level	Illiterate	3	1.3
		Primary	6	2.7
		Secondary	7	3.1
		Institution	36	16.1
		College	141	62.9
		Master	21	9.4
		Doctorate	10	4.5

Continue

	Diseases	Item	F	%
Medical History	Hypertension	Yes	37	16.5
		No	187	83.5
	DM.	Yes	28	12.5
		No	196	87.5
	Heart disease	Yes	10	4.5
		No	214	95.5
	COPD	Yes	13	5.8
		No	211	94.2
	Asthma	Yes	10	4.5
		No	214	95.5

This table indicates that the majority of participants in the study are between age group of (26- 35) years old (38.4%). The table shows that the overweight and normal weight are common among participants, which recorded (44.2%) and (31.7%). Regarding sociodemographic characteristics, the table revels that more than half of participants are male (52.7%) and (47.3%) are female. Related level of education vast majority of participants have college and institution level, which recorded (62.9%) and (16.1%) respectively. Concerning medical history, hypertension and diabetes mellitus are the common medical history that is diagnosed among 29% of participants.

Table (2): Assessment of Post Vaccine Side Effects include: Fever, Pain in site of injection, Muscle or bone pain, Weakness, Headache among Vaccinated People (n=224)

Post Vaccine Side Effects						
Vaccine's Dose	Never		Mild		Moderate	
	F	%	F	%	F	%
First	182	81.3	32	14.3	10	4.5
Second	176	78.6	45	20.1	3	1.3

F: Frequency, %: percentage, cut of point: Never: (12-20), Mild: (21-29), Moderate: (30-38), sever: (39-48) respectively.

This table related assessment of post vaccine side effects shows, that after first dose vast majority of vaccinated people recorded no side effects (81.3%), and (14.3%) recorded mild symptoms. Associated with second dose (78.6%) of participants recorded no side effects and (20.1%) with in mild symptoms.

Table (3): Correlation Between Post Vaccine Side Effects and Sociodemographic characteristics and Medical History (n=224)

Variables	Age	Gender	Level of Education	BMI	Hypertension	DM	Heart disease	COPD	Asthma
First dose	-.139*	.051	-.052	-.037	.132*	-.026	-.006	-.121	-.001
Second dose	-.177**	.163*	-.104	-.108	.017	.096	-.077	-.047	-.077

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

This table reveals that after first dose, there is a correlation between post vaccine side effects and both age and hypertension, but there is no correlation between other variables. Regarding second dose there is a strong correlation between post vaccine side effects and age, on the other hand, these is a correlation between gender of participants and post vaccine side effects, but there is no correlation between other variables.

DISCUSSION

The summary statistics of the study sample's sociodemographic characteristics and medical history in table 1 manifested that the majority of participants in the study are between age group of (26- 35) years old (38.4%). Overweight and normal weight are common among participants, which recorded (44.2%) and (31.7%). More than half of participants are male (52.7%). level of education recorded vast majority of participants have college and institution level, which recorded (62.9%) and (16.1%) respectively. Finally, related medical history, hypertension and diabetes mellitus are the common medical history that is diagnosed among 29% of participants.

Regarding assessment of post vaccine side effects which presented in table (2) shows, that post first dose majority of vaccinated people have not side effects (81.3%), and (14.3%) recorded mild symptoms. Associated with second dose (78.6%) of participants recorded never side effects and (20.1%) recorded mild symptoms. The study was conducted in the United States sample ages between (18 to 55) years, reported that majority of participants suffering from mild-to-moderate local reactions, primarily pain at the site of injection after vaccination [13].

Concerning the correlation between post vaccine side effects and sociodemographic characteristics and medical history for the first dose, the result shows that, there is correlation between both age and hypertension only. Regarding second dose there is a strong correlation between post vaccine side effects and age as well as, there is a correlation between gender of participants and post vaccine side effects. The study under title ''Efficacy and safety of COVID-19 vaccines in older people'' shows that efficacy and safety among old age people is crucial to their success, especially home residents and older people are likely to be in the first group to be vaccinated [14].

Finally, according to the world health organization many studies recommended that, the vaccine is the main method to prevent COVID -19 infection or at least minimize symptoms and safe life of population. In addition to that all kinds of vaccine are safe and at the most have mild to moderate post vaccine symptoms, in addition to provide high level of prevention thus, all people should take vaccine especially adults and old age to prevent infection and safe their life.

CONCLUSION

The results of this study has benefits for all community members who have hesitancy, mistrust or/and fear related covid-19 vaccine. The result of the study shows that both first and second doses of all vaccine, which, are currently used in Iraq, are safe and don't produce serious or sever symptoms. In general majority of vaccinated people do not have any symptoms and few of them have mild symptoms and do not effected on their daily living.

RECOMMENDATIONS

According on the study results and its interpretation this study recommends the following:

1. Conducting additional studies to acquire more knowledge related features and affected of COVID -19 vaccine
2. Create an educational program to increase health awareness among people, related fear or/and hesitancy of vaccination to encourage them taking vaccine.

REFERENCES:

1. Fridman A, Gershon R, Gneezy A. COVID-19 and vaccine hesitancy: A longitudinal study. *PloS one*. 2021 Apr 16;16(4):e0250123.
2. Bulut C, Kato Y. Epidemiology of COVID-19. *Turkish journal of medical sciences*. 2020 Apr 21;50(SI-1):563-70.
3. Lipsitch M, Swerdlow DL, Finelli L. Defining the epidemiology of Covid-19—studies needed. *New England journal of medicine*. 2020 Mar 26;382(13):1194-6.
4. Zhai P, Ding Y, Wu X, Long J, Zhong Y, Li Y. The epidemiology, diagnosis and treatment of COVID-19. *International journal of antimicrobial agents*. 2020 May 1;55(5):105955.
5. Bubar KM, Reinholt K, Kissler SM, Lipsitch M, Cobey S, Grad YH, Larremore DB. Model-informed COVID-19 vaccine prioritization strategies by age and serostatus. Science. 2021 Feb 26;371(6532):916-21.
6. Corey L, Mascola JR, Fauci AS, Collins FS. A strategic approach to COVID-19 vaccine R&D. Science. 2020 May 29;368(6494):948-50.
7. Robertson E, Reeve KS, Niedzwiedz CL, Moore J, Blake M, Green M, Katikireddi SV, Benzeval MJ. Predictors of COVID-19 vaccine hesitancy in the UK household longitudinal study. Brain, behavior, and immunity. 2021 May 1;94:41-50.
8. Malik AA, McFadden SM, Elharake J, Omer SB. Determinants of COVID-19 vaccine acceptance in the US. EClinical Medicine. 2020 Sep 1;26:100495.
9. Lane S, MacDonald NE, Marti M, Dumolard L. Vaccine hesitancy around the globe: Analysis of three years of WHO/UNICEF Joint Reporting Form data-2015–2017. Vaccine. 2018 Jun 18;36(26):3861-7.
10. Lippi G, WongJ, Henry BM. Hypertension and its severity or mortality in coronavirus Disease 2019 (COVID- 19): a pooled analysis. Pol Arch Intern Med. 2020 Mar 31;130(4):304-9.2020–January 13, 2021. Morbidity and Mortality Weekly Report. 2021 Feb 26;70(8):283.
11. Gee J, Marquez P, Su J, Calvert GM, Liu R, Myers T, Nair N, Martin S, Clark T, Markowitz L, Lindsey N. First month of COVID-19 vaccine safety monitoring—United States, December 14,
12. Anderson EJ, Campbell JD, Creech CB, Frenck R, Kamidani S, Munoz FM, Nachman S, Spearman P. Warp Speed for Coronavirus Disease 2019 (COVID-19) Vaccines: Why Are Children Stuck in Neutral?. Clinical Infectious Diseases. 2021 Jul 15;73(2):336-40.
13. Walsh EE, Frenck Jr RW, Falsey AR, Kitchin N, Absalon J, Gurtman A, Lockhart S, Neuzil K, Mulligan MJ, Bailey R, Swanson KA. Safety and immunogenicity of two RNA-based Covid-19 vaccine candidates. *New England Journal of Medicine*. 2020 Dec 17;383(25):2439-50.
14. Soiza RL, Scicluna C, Thomson EC. Efficacy and safety of COVID-19 vaccines in older people. *Age and Ageing*. 2021 Mar;50(2):279-83.