ORIGINAL ARTICLE

Severity of Disease and Outcomes in Vaccinated and Non Vaccinated Covid patients in District Muzaffarabad AJK

MUNAZZA NAZIR[1], SOHAIL KHAN RAJA[2], NOMAN KAREEM QURESHI[3], SYED SAJID ALI BUKHARI[4], FAROOQ AHMED[5] MUDASAR HAFIZ AWAN[6]

[1]Associate Prof. Medicine AJKMC, SKBZH/CMH Muzaffarabad, AJK
[2]Assistant Prof. Pulmonology AJKMC, AIMS Muzaffarabad , AJK
[3]Assistant Prof Gastroenterology AJKMC, SKBZH/CMH Muzaffarabad ,AJK
[4]Senior Registrar Medicines AJKMC, SKBZH/CMH Muzaffarabad, AJK
[5]Assistant Prof. Nephrology AJKMC,AIMS Muzaffarabad ,AJK
[6]PG Trainee Medicine SKBZ/CMH Muzaffarabad, AJK
Correspondence to: Dr. Munazza Nazir, email: drmuhammadfarooqmalik@gmail.com

ABSTRACT

Aim: Covid infection after first and second dose of vaccination was assessed in comparison to unvaccinated SARS-CoV-2 infection patients.

Methodology: Patients were divided into two groups: those who had not got any immunizations and those who had received vaccines that were prescribed. Individuals who have taken second dose of either the mRNA vaccine or the viral vector vaccine and have a positive COVID-19 within 14 days of receiving their second dose are deemed fully immunised.

Results: Among 180 patients, the males were 75% and 25% was females. In our study, 16.7% (30/180) patients still suffered from COVID-19 despite of the fact that they were vaccinated, but the ratio of immune patients was greater i.e. 83.3% (150/180).The severity of the symptoms in vaccinated patients was much lesser and in some cases almost nil. 144/180 (80%) patients did not suffer from any severe symptoms after vaccination. 33/180 (18.3%) patients showed moderate symptoms while 3/180 (1.7%) showed severe symptoms. In the analysis of severity of symptoms of non vaccinated patients, 70% (126/180) showed severe symptoms, 25% (45/180) showed moderate and 5% (9/180) patients showed low symptoms.

Conclusion: People without vaccination have more severe symptoms whereas COVID patients with vaccination had a reduced mortality rate and milder symptoms.

Keywords: SARS-COV-2, vaccination, without vaccination

INTRODUCTION

The first of three vaccines to be used in population was Pfizer-BioNtech vaccine against Corona virus disease 2019 in the USA. Moderna and Johnson and Johnson vaccines were approved for emergency use. Pfizer and Moderna vaccines use mRNA technology while Johnson & Johnson vaccine uses a viral vector. Preliminary results from safety and efficacy trials have been encouraging[1].

A prior trial in the COVID Symptom Research found a reduction in infection 12 days after the first dose, which was confirmed in a case-control study in the UK[2].

The objective of the study was to assess Covid infection after first and second dose of vaccination in comparison to unvaccinated SARS-CoV-2 infection patients.

METHODOLOGY

The health centres (SKBH/CMH and COVID Isolation Hospital Muzaffarabad AJK) were used to collect immunisation data in the Muzaffarabad area of the AJK after IRB permission. The type of vaccination used and the date of administration are included in this data. Age, gender and zip code of residency are among the demographic and epidemiological information. Pre-existing medical conditions, vital signs (temperature, blood pressure, heart rate, respiratory rate, pulse oxygen saturation), home medications, the chief complaint from the emergency provider's note, the duration of symptoms in days at the time of presentation from the emergency provider's note, HRCT and laboratory tests are all examples of clinical data (WBC, Hb, ALT, Creatinine, D dimer, procalcitonin, CRP, LDH, troponin).

Inclusion Criteria: Patients with confirmed COVID infection

Exclusion Criteria: COVID-19 positive patients >28 days prior to their ED visit.

Patients were divided into two groups: those who had not got any vaccination and those who had received the vaccines that were prescribed. Unvaccinated people are those who are positive

----

for COVID-19 but don't have a record of COVID-19 immunisation after symptom start. Individuals who have taken their second dose of vaccine and have a positive COVID-19 laboratory test within 14 days of receiving their second dose are deemed fully immunised.

RESULTS

The total sample size was 180 patients.
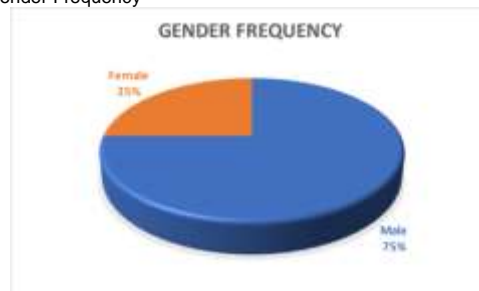
Fig 1: Gender Frequency

Table 1: The life style and habits

Life style	n	%age
Smoking	37/180	20.5
Obesity	20/180	11
Healthy diet	120/180	66

Table 2: Co morbidities

Co morbidities	n	%age
Diabetes	17/180	9.4
Asthma	29/180	16
Heart disease	22/180	12

Table 3: Disease in vaccinated patients

Disease in vaccinated patients	n	%age
Yes	30	16.7
No	150	83.3
Total	180	100

Table 4: Severity of the symptoms

Vaccinated patients	n	%age
Severe	3	1.7
Moderate	33	18.3
Low	144	80%
Total	180	100%

Table 5: Severity of symptoms

Non vaccinated patients	n	%age
Severe	126	70
Moderate	45	25
Low	9	5
Total	180	100

DISCUSSIONS

COVID-19 was also found to be less severe in persons who received their first or second vaccine doses versus those who were not. This is consistent with study by Bowyer et al[3.] Following their initial vaccine dosage, frailty was linked to post-vaccination illness in older people, emphasising the importance of ongoing care in this clinically sensitive population[4].

Another study found an inverse association between age and the chance of getting sick after getting vaccinated, especially among the elderly. This finding is consistent with a previous non-vaccinated study that found a lower anti-SARS-CoV-2 antibody in older adults i.e. 65 years compared to younger adults i.e., 35–44 yrs, which could reflect shielding in this age group based on the clinically vulnerable classification of people >70 years. The research found some evidence that kidney illness may raise the risk of SARS-CoV-2 infection in older people receiving their first vaccine dose in the COVID-19 phase 2 and phase 3 trials[5].

In our study, vaccination lowers the risk of SARS-CoV-2 infection in the elderly. To evaluate the effect of age on post-vaccination infection, we did not age match controls 1 and 2. Age was included as a covariate in all analyses except those that examined the effect of age alone. Following the initial dose, the risk of post-vaccination infection was higher in older people, and those living in poor areas, although it was lower in those who were not obese. Individuals who received their second vaccine dose were less likely than unvaccinated controls to have a lengthy illness (lasting >28 days), have >5 symptoms in the first week of sickness.

CONCLUSION

People without vaccination have more severe symptoms whereas COVID patients with vaccination had a reduced mortality rate and milder symptoms.
Conflict of interest: Nil

REFERENCES

1. Baden LR, Sahly HM, Essink B et al. Efficacy and safety of the mRNA-1273 SARS-CoV-2 vaccine. *N Engl J Med.* 2021; 384: 403-416
2. Lopez BJ, Andrews N, Gower C et al. Effectiveness of the Pfizer-BioN Tech and Oxford-AstraZeneca vaccines on covid-19 related symptoms in older adults in England: test negative case-control study.*BMJ.* 2021; 373n1088
3. Bowyer RCE, Varsavsky T, Thompson EJ et al. Geo-social gradients in predicted COVID-19 prevalence in Great Britain: results from 1 960 242 users of the COVID-19 Symptoms Study app. *Thorax.* 2021; 76: 723-25
4. Hewitt J, Carter B, Vilches MA et al. The effect of frailty on survival in patients with COVID-19 (COPE): a multicentre, European, observational cohort study. *Lancet Public Health.* 2020; 5: e444-e451
5. Sudre CH, Lee KA, Lochlainn MN et al. Symptom clusters in COVID-19: a potential clinical prediction tool from the COVID Symptom Study app. *Sci Adv.* 2021; 7eabd4177.