International Journal of Community Medicine and Public Health
Reddy KM et al. Int J Community Med Public Health. 2023 Dec;10(12):4690-4693
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20233764

Original Research Article

Vaccination coverage against COVID-19 among adults of rural field practice area, tertiary-care hospital: cross-sectional study

Kamuni Madhuri Reddy*, M. A. M. Pasha, Afsar Fatima

Department of Community Medicine, Santhiram Medical College and General Hospital, Nandyal, Andhra Pradesh, India

Received: 08 February 2023
Revised: 11 August 2023
Accepted: 15 November 2023

***Correspondence:**
Dr. Kamuni Madhuri Reddy,
E-mail: madhurireddy4864@gmail.com

ABSTRACT

Background: As the spread of COVID-19 pandemic, lockdown has been implemented and as a preventive measure to reduce the occurrence of disease vaccination has been conducted throughout the country level.
Methods: A Community based Cross Sectional study was conducted during September 2022 to October 2022 (2months) in RHTC field practice area of Santhiram Medical College, nandyal among adults (25-45) years of age group by convenient sampling method with sample size 300, study tool was pre-designed, semi structured questionnaire. Data was collected by interview method and analysed by SPSS 22 version. Ethics committee clearance was obtained before conducting the study.
Results: In this study population, (48%) completed 3 doses of COVID vaccine with booster dose, (48.3%) got vaccinated for 2 doses and (3.7%) are vaccinated for 1st dose and (15%) of them got COVID infection after vaccination.
Conclusions: Out of 300 participants 53% were males and 47% were females, 4% with one dose, 48% with two doses and 48% with two doses with booster dose of vaccination, about 36% had comorbidities. About 35% vaccinated by covaxin and 65% is with covishield vaccine, in which 9% had COVID infection after vaccination. Therefore, along with regular monitoring and surveillance, health education regarding the advantages of vaccination to the people can improve the vaccination status in rural area.

Keywords: COVID-19 infection, Covaxin, Covishield, COVID vaccination

INTRODUCTION

Corona virus disease (COVID-19), which originated in the Wuhan province of China was declared as a global pandemic by World Health Organization (WHO) on March 11, 2020.[1] In order to contain this pandemic disease many countries including India have adopted for a lockdown, isolation and quarantine.[2] For the effective control of COVID-19 social distancing, face mask use and sanitizer use have to be ensured. In addition to that COVID-19 vaccination has started.[3] In spite of lockdown, isolation and quarantine, vaccination drives have been conducted and in spite of various vaccination drives and government of India has developed a mobile application implementation on online CoWIN app usage also not helped to reduce the spread of infection and many people get exposed to infection, mainly comorbid patients and in rural area people are neglecting the course of complete vaccination.[4] Vaccination and use of personal protective measures such as wearing the mask is very important for proper protection from COVID-19.

Aim of study was to know the vaccination status of covid 19 of adult age group (26-44 years) of rural field practice area of Santhiram Medical College, Nandyal.

METHODS

A community based cross sectional study was conducted among adults of age group (25-45) years of population of RHTC field practice area of Santhiram Medical College and General Hospital, Nandyal during September 2022 to October 2022 (2 months) by using convenient sampling method with sample size 300. Study tool was pre-designed, pre-tested, semi structured questionnaire. Ethics committee clearance was obtained before conducting the study.

Inclusion criteria

Adults (25-45 years) who are living in the village under RHTC area.Who are willing to participate voluntarily and give written informed consent were included.

Exclusion criteria

Those who are not present at the time of data collection and not willing to participate and who don't give written informed consent were excluded.

Statistical analysis

Data was collected by interview method and analysed by SPSS 22 version.

RESULTS

Figure 1 shows that of 300 responders about 53% were males and 47% were females.

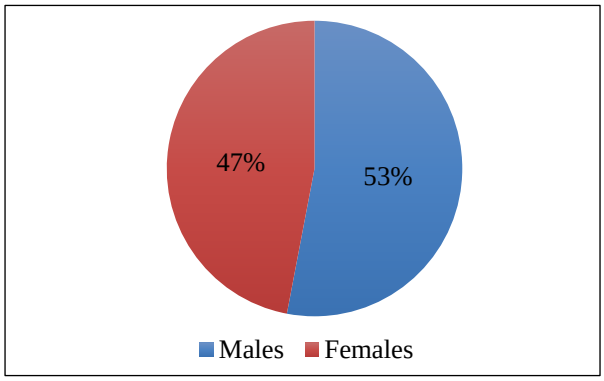

Figure 1: Gender distribution.

Out of 300 responders about 4% are got vaccinated with first dose of vaccine and about 48% were vaccinated by second dose of vaccination and about 48% completed full course of vaccination by booster dose (Figure 2).

Table 1 shows that of 300 responders about 157 (52%) were studied primary schooling and about 55 (18%) were went to secondary school and about 35 (12%) went to intermediate college and about 53 (18%) were studied Degree. In 300 about 159 (53%) were used the practice of mask for protection and about 60 (20%) has got covid 19 infection. In 300 responders 104 (35%) were vaccinated by COVAXIN vaccine and 196 (65%) by COVISHIELD vaccine and in which 26 (9%) have got the covid 19 infection after vaccination. In 300 about 108 (36%) have comorbidities and about 48 (16%) got the information of source of vaccination by TV, NEWS, Social media, about 221 (74%) by health care worker, ASHA, ANM, about 10% by others (Table 1).

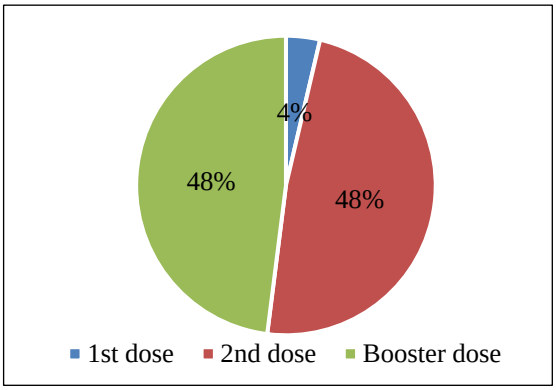

Figure 2: Vaccination status.

Table 1: Variables of COVID 19 vaccination status.

Variable	Responses	N (300)	%
Education	Primary school	157	52
	Secondary school	55	18
	Intermediate	35	12
	Degree	53	18
Usage of mask	Yes	159	53
	No	141	47
COVID-19 infection	Yes	60	20
	No	240	80
Type of vaccine taken	Covaxin	104	35
	Covishield	196	65
COVID infection after vaccination	Yes	26	9
	No	274	91
Comorbidities	Yes	108	36
	No	192	64
Source of vaccination information	TV, news, social media	48	16
	HCW, ANM, ASHA, HE	221	74
	Others	31	10

Table 2 shows that there is a significant association between COVID-19 infection with comorbidities with the "p value"-0.001 (Table 2).

Table 3 shows that there is a significant association with the type of vaccine with COVID-19 infection after vaccination with the "p value"-0.001 (Table 3).

Table 2: Association between COVID-19 infection with gender and comorbidities.

Variable	Covid 19 infection (%)				P value
		Yes	No	Total-300	
Gender	Male	36 (22)	123 (78)	159 (53)	0.257
	Female	24 (17)	117 (83)	141 (47)	
Comorbidities	Yes	31 (29)	77 (71)	108 (36)	0.0001
	No	29 (15)	163 (85)	192 (74)	

Table 3: Association between types of vaccine with COVID-19 infection after vaccination.

Variable	Covid infection after vaccination (%)				P value
		Yes	No	Total-300	
Type of COVID vaccine	Covaxin	18 (17)	86 (83)	104 (35)	0.0001
	Covishield	8 (4)	188 (96)	196 (65)	

DISCUSSION

In this study, out of 300 participants 53% were males and 47% were females and 47.2% were males and 52.8% were females in Thadathil et al study where 30.4% were females and 69.6% were males in Deepthi et al study.[3,5] Regarding vaccination coverage there is a decreased vaccination have been observed in rural areas mostly due to the myths about the vaccination like post vaccination complications, in this study 4% people were vaccinated with one dose, 48% with two doses and 48% with two doses with booster dose of vaccination. Where in Adhikari et al study about 36.9% participants were fully vaccinated, 8.1% were partially vaccinated and 55% were not vaccinated and about 45.8% adults in rural countries were fully vaccinated in Sun Y, Monnat SM study.[6,7] Regarding education about 52% were under primary schooling, 18% were under secondary schooling and 12% were studied intermediate and about 18% were underwent Degree where 15.4% were under primary schooling, 52.3% were under secondary schooling and 32.3% were studied degree and above in Thadathil et al study.[3] Severity of the disease is more in people with comorbidities in this study about 36% had comorbidities, in Adhikari et al study 16.2% participants were having co-morbidity and about 11.7% were having the comorbidities in Thadathil et al study.[6,3]

This study some limitations. Follow up of each patient was difficult in this study. Cannot evaluate comorbidities on on-spot of vaccination.

CONCLUSION

Severity of the Covid 19 infection is reduced by vaccination. Vaccination coverage is an important factor for the spread of the disease. Therefore, along with Regular monitoring and surveillance, health education regarding the advantages of vaccination to the people can improve the vaccination status in rural area.

ACKNOWLEDGEMENTS

We would like to thank Dr M.A.M Pasha MD (Professor and HOD) and Dr Afsar Fatima MD, DPH (Professor) co-authors for helping in this paper. I would also like to extend my thanks to the participants for their participation and kind co-operation.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. World Health Organization. Coronavirus disease (COVID-19), 2019. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019. Accessed on 30 October 2023.
2. Park K. Park's textbook of social and preventive medicine. 27th ed. M/s Banarsidas Bhanot, Jamalpur and Pune; 2023.
3. Thadathil SE, Rithu N, Sindhu PS. Knowledge and attitude of people above 18 years regarding COVID-19 vaccination in a rural area of Kerala. Int J Community Med Public Health. 2021;8:5796-800.
4. Nath S, Aravindkumar K, Sahoo JP, Samal KC, Chidambaranathan A. Use of CoWIN App in Vaccination Program in India to Fight COVID-19. Vigyan Varta. 2021;2(2):10-3.
5. Deepthi K, Pasha MAM, Fatima A. COVID-19 restrictions: impact on lifestyle and social behaviour among adults of 18-40 years in Kurnool town. Int J Community Med Public Health. 2022;9(3):1356-9.
6. Adhikari UR, Gupta S, Bhattacharjee S. COVID-19 infection among nursing personnel: a retrospective survey in Kolkata, West Bengal. Int J Community Med Public Health. 2022;9(6):2684-90.
7. Sun Y, Monnat SM. Rural-urban and within-rural differences in COVID-19 vaccination rates. J Rural Health. 2022;38(4):916-22.

8. Hayat M, Uzair M, Ali Syed R, Arshad M, Bashir S. Status of COVID-19 vaccination around South Asia. Hum Vaccin Immunother. 2022;18(1):2016010.
9. Sun Y, Monnat SM. Rural-urban and within-rural differences in COVID-19 vaccination rates. J Rural Health. 2022;38(4):916-22.
10. Bhatia R, Abraham P. COVID-19 vaccines & pandemic. Ind J Med Res. 2021;153(5-6):517.
11. Narayanan L, Pandit M, Basu S, Karmakar A, Bidhan V, Kumar H, Brar K. Impact of lockdown due to COVID-19 outbreak: lifestyle changes and public health concerns in India. Preprint, 2020.
12. Hossain MM, Sultana A, Purohit N. Mental health outcomes of quarantine and isolation for infection prevention: A systemic umbrella review of the global evidence. Epidemiol Health. 2020;42:e2020038.
13. Owen N, Sparling PB, Healy GN, Dunstan DW, Matthews CE. Sedentary behavior: emerging evidence for a new health risk. Mayo Clin Proc. 2010;85(12):1138-41.
14. Martinez-Velilla N, Casas-Herrero A, ZambonFerraresi F. Effect of exercise intervention on functional decline in very elderly patients during acute hospitalization: a randomly clinical trial. JAMA Intern Med. 2019;179(1):28-36.
15. Kumar M, Dwivedi S. Impact of coronavirus imposed lockdown on Indian population and their habits. Int. J. Sci. Healthcare Res. 2020;5(2):88-97.
16. CDC. 2019 Novel coronavirus, Wuhan, China, 2020. Available at: https://www.cdc.gov/coronavirus/2019- nCoV/summary.html. Accessed 10 January 2020.
17. National Health Commission of People's Republic of China. Notice on printing and distributing the work plan for prevention and control of pneumonia caused by novel coronavirus infection in the near future, 2020. Available at: http://www.nhc.gov.cn/tigs/s7848/202001/808bbf75e5ce415aa19f74c78ddc653f.shtml. Accessed 10 January 2020.

Cite this article as: Reddy KM, Pasha MAM, Fatima A. Vaccination coverage against COVID-19 among adults of rural field practice area, tertiary-care hospital: cross-sectional study. Int J Community Med Public Health 2023;10:4690-3.