



COMPARATIVE STUDY ON VACCINE-INDUCED AND NATURAL IMMUNITY TO COVID-19 IN HIGH-RISK POPULATIONS DHANBAD DISTRICT.

Dr B.K. Pandey^{1*}, Dr. Atul Prakash²

^{1*} Assistant Professor Blood Centre Dhanbad, BBMKU, Jharkhand, India
Email: bkpandey222@gmail.Com

² Assistant Professor From 13.08.2019. Medinirai Medical College, Palamu Jharkhand, India
Mob No: 9431398746. Email: Atulprakash70@gmail.Com.

***Corresponding Author:** Dr B.K. Pandey

^{*} Assistant Professor Blood Centre Dhanbad, BBMKU, Jharkhand, India
Email: bkpandey222@gmail.Com

Background:- The immune response following infection with a virus can be measured by detection of virus infected cells, IgM, IgG or total antibodies through immunoassay as well as by the detection of CD8+T cells. This prospective study investigates the comparative efficacy of vaccine-induced immunity and natural immunity in high-risk and susceptible groups in Dhanbad district. The study uses serological tests to measure immune response and assesses the benefits of 2 doses of Covaxine. The results provide insights into the need for booster doses and the overall immune response to COVID-19.

Methodology:-

This study has been conducted in SNMMCH hospital to establish any improved immunity in high risk and susceptible groups of professionals (paramilitary forces involved to implement government protocols, individuals involved in health care facilities to ascertain any added benefits of 2 doses of Covaxine over natural immunity developed due to accidental infection through contacts before pre-vaccination period. TruNat and RT-PCR was done for isolating exposed groups. Another group formed for those who are potential candidates for immunization with 2 doses of Covaxine with previous history of exposure of Covid-19 virus. All healthy people who will healthy in all clinical parameters were included in study according to sop.

Nasal swabs collected from all healthy individuals and CLIA method used to know the IgG cutt-off values.

Aims & Objectives:- This study aims to demonstrate any additional benefits for recipients of 2 doses of Covaxine, and to guide the potential need for precautionary or booster doses of the vaccine, especially for susceptible groups.

KeyWords:- Prospective study. ELISA, Anti IgG Covid-19 antibody, Covaxine, Covalent Plasma, RT-PCR.

Table-1:- Antibody titres obtained by CLIA method from all participants aged 20- 60 years.

AGE GROUP	MILD 1-10		MODERATE 11-20		HIGH 20-30	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE

18-29	06	06	05	00	13	01
30-39	20	03	18	00	33	00
40-49	06	00	05	00	17	00
>50	10	00	08	00	13	00

Data Analysis in Males:-Total participants- Males-185 (29 males show Negative IgG) Females-19 (09 females show Negative IgG).

Conclusions: - The study reveals a heightened immune response in males with previous exposure after receiving 2 doses of Covaxine. This response is 30 higher in immunogenic titers than in adult's males and females of all ages. The study underscores the importance of vaccinations in enhancing immunity against Covid-19.

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Interests of Conflicts:- There is no interest of conflict.

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