

## Effect of Sinopharm Vaccine on Libido in Healthcare Workers of District Sialkot

Nauman Rafi Rajput<sup>1</sup>, Aasma Hanif<sup>2</sup>, Nazar Abbas<sup>3</sup>, Hamza Iftikhar Rao<sup>4</sup>, Mohsin Javed Warraya<sup>5</sup>, Abu Abaida<sup>6</sup>, Zeeshan Rafi<sup>7</sup>, Abdullah Kashif<sup>8</sup>, Muhammad Talha Khalil<sup>9</sup>

<sup>1</sup>Sahara medical college, Narowal

<sup>2</sup>THQ Hospital Sambrial

<sup>3</sup>THQ Hospital Sambrial

<sup>4</sup>THQ Hospital Sambrial

<sup>5</sup>THQ Hospital Sambrial

<sup>6</sup>Hubei University of Arts and Science, China

<sup>7</sup>Qadir Khas University Istanbul, Turkey

<sup>8</sup>Changsha Medical University, China

<sup>9</sup>Govt. College University Faisalabad

Correspondence address: Sahara medical college, Narowal

Email: [naumanrafi@hotmail.com](mailto:naumanrafi@hotmail.com)

### ABSTRACT:

**Objective:** The aim and objective of the study is to evaluate and analyze the effect of sinopharm vaccine on libido in healthcare workers of district Sialkot.

**Study Design:** Randomized clinical trial

**Setting:** THQ Hospital Sambrial, THQ Hospital Daska, THQ Hospital Pasrur, AIMH Sialkot

**Methods:** The study initiated within the medical facility of district Sialkot where the vaccine against the covid 19 named sinopharm is given to the health care workers. With the approval of the ethical committee and consents with the doctors and staff, a survey was conducted with a designed questionnaire. A total of 100 subjects participated in the study. Relevant information about libido was asked with the health care workers which was recorded by electronic media and analyzed statistically with 95% confidence interval and p value <0.05.

**Results:** The survey resulted with low libido in 6% (6 out of 100) of the health care population while high libido was demonstrated by 7% (7 out of 100) of the health care workers. The investigation also observed the disturbance in sleep patterns of sinopharm vaccinated population.

**Conclusion:** There is no significant difference statistically in the health care individuals associated with high and low libido. Hence, the drug can be injected safely with the standard protocol and further research is demanded to investigate the relevant association between sinopharm and libido.

### INTRODUCTION:

Sinopharm COVID-19 vaccine BBIBP-CorV was developed by the BBIBP in China. Among the COVID-19 vaccines developed by Chinese businesses, BBIBP-CorV is the first to be authorized by the WHO as a Trusted Source for use against the SARS-CoV-2 virus<sup>1</sup>.

On May 7, 2021, the WHO approved the Sinopharm vaccine for emergency use, nearly four months after China's National Medical Products Administration authorized it in December 2020. Additional

42 countries have approved the vaccine, including Pakistan. However, it has not yet been approved for use in the European Union by the European Medicines Agency (EMA)<sup>2</sup>.



Sinopharm and the BBIBP chose to produce their COVID-19 vaccine using a well-established technology. To elicit an immunological response, the two-dose vaccine contains inactivated virus<sup>1</sup>. Sinopharm's vaccine comprises SARS-CoV-2 that has been treated with beta-propiolactone. This drug attaches to the virus's genetic material and inhibits its replication, therefore preventing COVID-19 from occurring. Additionally, the vaccination contains aluminium hydroxide as an adjuvant. Adjuvants aid in the strengthening of the immune response to vaccines in the body<sup>2</sup>.

When a person is vaccinated, their immune system recognizes the inactivated virus as alien and produces antibodies against it. If the vaccine comes into touch with SARS-CoV-2 in the future, their immune system mounts an immunological response against it<sup>3</sup>.

The WHO recommends the Sinopharm vaccination for anyone aged 18 years and older, with a three–four week interval between doses. The global health agency thinks that vaccines are effective in the majority of cases at roughly 78 percent, however it notes that trial data for persons over the age of 60 years are limited<sup>4</sup>.

The protein enzyme ACE2, to which the novel sinopharm vaccine binds, has piqued the interest of some experts. ACE2 serves as a sort of "entryway" to infect cells, and some researchers are concerned about this. Numerous cells in the lungs, heart, blood vessels, kidneys, liver, gastrointestinal system (including the ovaries), and reproductive organs (including the testicles) express ACE2. It has been discovered that, according to the researchers, "the testis is one of the organs that expresses high levels of expression of ACE2," which is counter check by the researchers, indicating that it is a likely "target" of the novel vaccine and that reproductive function may be compromised as a result of antiviral therapy<sup>5</sup>.



Once vaccines have been approved and are being administered to large groups of people, they are subjected to ongoing monitoring for the occurrence of extremely rare side effects. There have been no substantial safety problems identified as a result of the Sinopharm implementation in Pakistan<sup>6</sup>. Having said that, the overall number of adverse events observed was quite low, suggesting that there was significant under-reporting of the incidents. In a community of that size, we would expect to observe a higher number of illnesses and deaths recorded in the few weeks following immunization simply by chance, even if the illnesses and deaths were not caused by the vaccine in question<sup>7</sup>. What is known as "vaccine-associated increased illness" is a potential side effect that should be taken into consideration. An extremely unusual side effect of several other vaccines that use a similar "inactivated" technique to the Sinopharm and Sinovac vaccines is the development of a swollen lymph node. A vaccine-induced autoimmune reaction happens when a vaccinated person is exposed to the virus and develops a major inflammatory condition, resulting in them experiencing more severe symptoms than they would have experienced otherwise. To date, no cases of this have been documented in connection with these vaccines, though the World Health Organization urges continued safety monitoring to identify any cases that do occur<sup>8</sup>.

## **METHODOLOGY:**

The research was carried out at multiple medical institutions in the district of Sialkot, where health care professionals were given the sinopharm vaccination, which protects them against the covid 19 virus. A survey was carried out using a questionnaire that had been created with the agreement of the ethical committee and with the consent of the doctors and personnel. An overall number of 100 participants took part in the research. The health care workers were questioned for relevant information concerning libido, which was captured using printed questionnaires and analyzed statistically with a 95 percent confidence interval and a p value less than 0.05.

Eligibility Criteria	
Inclusion Of Participants	Exclusion Of Participants
Health workers age limit is between 20-40 years	<b>Health Workers above 40 years were excluded</b>
Male health care workers included	<b>Female health care workers excluded</b>
Health staff within the Sialkot District	<b>Other districts were not included</b>
Individuals with controlled diabetes and hypertension were included	<b>Individuals with severe co morbidities and autoimmune diseases were excluded</b>

The demographic variables like age, gender, weight, height, diabetes, and hypertension and smoking habits are evaluated and assessed in SPSS software (version 25). The association between the sinopharm vaccine and libido were analyzed by the independent t test and other reported side effects were also evaluated with the help of t test<sup>9</sup>.

## RESULTS:

The demographic characteristics of the health care staff participated in the trial demonstrated the following characteristics:

Characteristics	Description
Age(Median)	<b>28 years</b>
Weight(Median)	<b>74 kgs</b>
Gender	<b>Males 100%</b>
Diabetes	<b>8%</b>
Hypertension	<b>5%</b>
Vaccination against Covid-19	<b>Sinopharm</b>
Smoking	<b>19%</b>

The most commonly reported side effects in this trial were headaches, sleep pattern disturbed, muscle fatigue, fever and pain at the injection site.

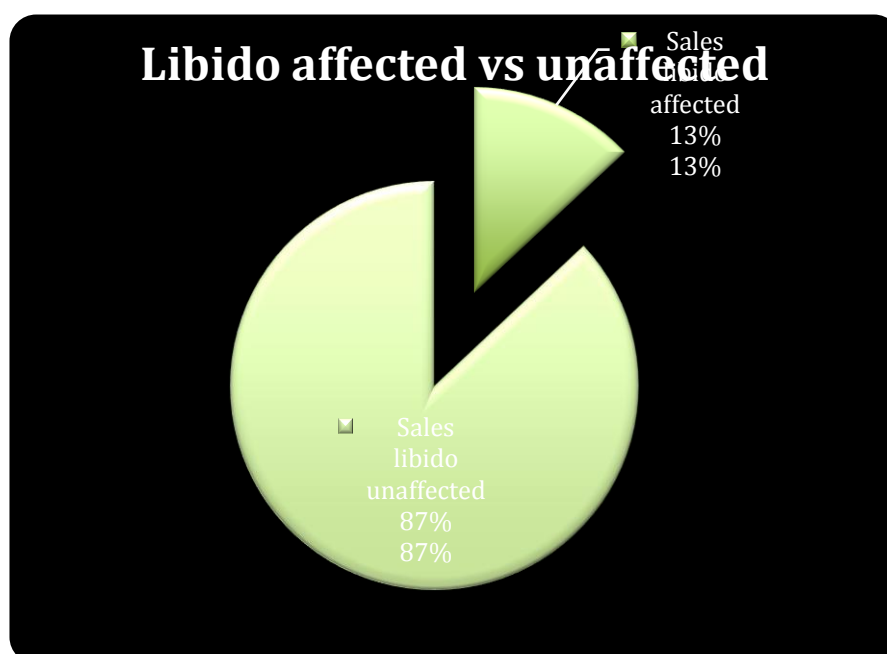
The WHO reviewed safety data from three clinical trials, which included data for 100 participants who received the Sinopharm vaccine. Most of these data relate to men aged 20-40 years. Based on these data, the most common side effects were:

Side Effects of Sinopharm vaccine	No. of health care workers(%)
Headaches	<b>60%</b>
Fatigue	<b>68%</b>
Sleep disturbance	<b>53%</b>
Injection site reactions	<b>14%</b>

These side effects are similar to those of other authorized vaccines against COVID-19, and most were mild to moderate whereas, sinopharm vaccinated health care workers also reported with increased and decreased libido:

High libido	7% of individuals
Low libido	6% of individuals

A total of 13 health care workers out of 100 faced increased and decreased libido whereas 87 doctors and staff members stayed safe with sinopharm vaccine.



## DISCUSSION:

One of the biggest short-term concerns around COVID-19 sinopharm vaccination and male fertility and sex derives from the well-documented impact of the flu, as well as the fever that goes along with it, on male fertility. In spite of the fact that COVID-19 is new, “we know quite a little about viruses, flus, and male infertility,” notes Legacy advisor and reproductive urologist Dr. Paul Turek, who is also a member of the American Society for Reproductive Medicine. Men's fertility has been shown to be reduced by seasonal flu. We believe it is caused by the fever that is linked with the sickness, which causes the testicles to overheat.”<sup>11</sup>

These findings are supported by a number of case studies with fertile males who were having fevers. The results of one study showed that a patient recuperating from influenza produced defective sperm for 45 days after the illness ended. In another case, the patient's sperm count, motility, and genetic health were all reduced for more than two months after the fever subsided. It is logical to think that males who have COVID-19 will have lower fertility and libido because one of the key signs of the disease is a high temperature. However, there is no evidence to support this assumption<sup>10</sup>.

However, it is currently expected that the effects of COVID-19 on male fertility and libido will be transient, similar to the effect of seasonal influenza on male fertility. Dr. Turek explains that the impact is similar to that of taking a hot bath or tub and that it is completely reversible<sup>11</sup>.

COVID-19 appears to have a short-term effect on the production of reproductive hormones, according to research. According to preliminary findings, males who received the novel coronavirus vaccination exhibited raised levels of luteinizing hormone (LH) and lower ratios of testosterone and follicle-stimulating hormone (FSH) when compared to healthy men, compared to healthy men<sup>13</sup>.

Compared to males who did not receive immunisation, patients had a "statistically significant reduction of sperm quality" and sperm concentration, according to a small study of men. This was true even up to 54 days following the vaccination. There was no sperm in either of the moderate cases, which indicates that there was no sperm in the sample at all in both of the moderate cases<sup>12</sup>.

A brand new (and as yet unpublished) study from an Israeli medical centre shows that patients with moderate COVID-19 vaccination symptoms have a 50% drop in semen volume, sperm concentration, and sperm motility 30 days after the vaccine<sup>13</sup>.

## CONCLUSION:

There is no statistically significant difference between the health-care individuals connected with high and low libido, according to the data. The medicine can therefore be administered safely using the normal procedure, and further research is required to determine whether or not there is a relevant link between sinopharm and libido.

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