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Factors Associated with COVID-19 Vaccine Acceptance and Hesitancy Among Health Care Workers in ATBUTH Bauchi

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Abstract

COVID-19 Vaccine acceptance among the general public and healthcare workers appears to play a key role in the successful control of the pandemic. It is critical to understand and investigate how much hesitancy toward COVID-19 vaccines might occur and factors responsible for these public concerns as this will greatly assist public health workers in their efforts to maximize vaccine uptake and thus, control the pandemic. This study investigated factors responsible for covid 19 vaccine hesitancy among health care workers in ATBUTH Bauchi. A cross-sectional study was carried out using questionnaires administered to health care workers of ATBUTH. A total of 339 were administered. Random sampling was employed in the selection of participants. Simple Percentages and Means were used to analyze the data. It was observed that out of the 339 administered questionnaires, 321 were returned. 70 % of respondents were aged 30-40 years, 20 % 20-30 years and 10 % 40-50 years respectively. 198 (62 %) health care workers were vaccinated, out of which 43 % were fully vaccinated, 57 % had received at least 1 dose. The most common reason for vaccination was travel restriction (74 %). Most common reason for not being vaccinated was fear of side effects (68 %). Highest qualification of respondents that were vaccinated was masters (5 %).

Fear of side effects and limited knowledge about the vaccine appear to be the main reasons for vaccine hesitancy among health care workers in ATBUTH.

Keywords: COVID 19, Vaccine, vaccine hesitancy, health care workers, cross- sectional, endemic, pandemic, epidermic, messenger-RNA, ATBUTH.

1. Introduction

COVID-19 vaccines were developed within a period of one year in late 2020 and early 2021 with the aim of ending the COVID-19 pandemic and vaccine acceptance among the general public and healthcare workers appears to play a key role in the successful control of the pandemic (Parsons et al., 2022). The World Health Organization has approved a total of 8 vaccines as at 12th November 2021 (Soares et al., 2021). These include Moderna mRNA 1237 and Pfizer/BioNTech BNT162b2 which are both mRNA vaccines, Janssen (Johnson, Johnson), Oxford/AstraZeneca and Covishield (Oxford/AstraZeneca formulation) which contain non-replicating viral vectors and the

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last 3 are Covaxin, CoronaVac and BBIBP CorV (Vero Cells) which contain inactivated virus (Soares et al., 2021).

Front-line fighters, primarily health professionals, are at a high risk for the disease (UNCTAD, 2020). Their susceptibility to diseases has many implications for health care systems. Their morbidity and mortality can cause severe crises in health care personnel shortages (Toor et al., 2022).

Healthcare workers are at higher risk of COVID-19 infection with ease of infection transmissibility to co-workers, patients and their relatives (Watanabe et al., 2022).

Several studies report COVID-19 vaccination hesitancy in the general public with Africa as one of the continents with low rates of COVID 19 vaccine acceptance (Workforce, 2021), thus, mitigating the global efforts to control the covid 19 pandemic (Ruiqiang et al., 2021). However, little is known about the nature and extent of COVID-19 vaccination hesitancy in healthcare workers worldwide (Workforce, 2021).

According to Nigeria Center for Disease Control (NCDC) as at 10th November 2021, only 2.8 % of Nigerians have received at least one dose and 1.8 % are fully vaccinated (Tanko et al., 2020). However, little is known about intention of healthcare professionals to accept COVID-19 vaccination and the factors affecting it are not known. The findings from these professionals would help policy makers in the health sector to improve vaccine acceptance, which would contribute to the control of COVID-19 pandemic (Allen, Butler, 2017; Al-mulla et al., 2021; Toor et al., 2022; Woo, Dimova, 2022).

The research therefore determined the factors associated with COVID-19 vaccine acceptance and hesitancy among health care workers in ATBUTH Bauchi.

2. Methodology

Study area

Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH) is located in Bauchi town, Bauchi State, North Eastern Nigeria and it is located within my immediate community. It is well-equipped with more than 10 clinical and non-clinical departments with the aim of providing standard health care to both indigent and non-indigent patients.

Study design: A cross-sectional study was carried out using a structured questionnaire administered to health care workers.

Study population: Consenting Staff of ATBUTH Bauchi.

Sample size: The sample size determined for this study was determined by a single population proportion formula, with the assumption of 50 % acceptability of vaccination against COVID-19, a 95 % confidence interval, 5 % margin of error, and addition of 10 % non-response rate. This calculator uses the following formula for the sample size n:

$n = N^*X / (X + N - 1)$,

where,

$X = Z_{\alpha/2}^2 \ ^*p^*(1-p) / MOE^2$,

and $Z_{\alpha/2}$ is the critical value of the Normal distribution at $\alpha/2$ (e.g. for a confidence level of 95 %, α is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. Note that a Finite Population Correction has been applied to the sample size formula.

Therefore, the sample size for this study was 319.

Inclusion criteria: All consenting staff of ATBUTH.

Exclusion criteria: Non-consenting staff of ATBUTH.

Data collection: Data was collected using a self-administered questionnaire.

Data analysis: Data was analysed using Microsoft Office tools.

3. Results

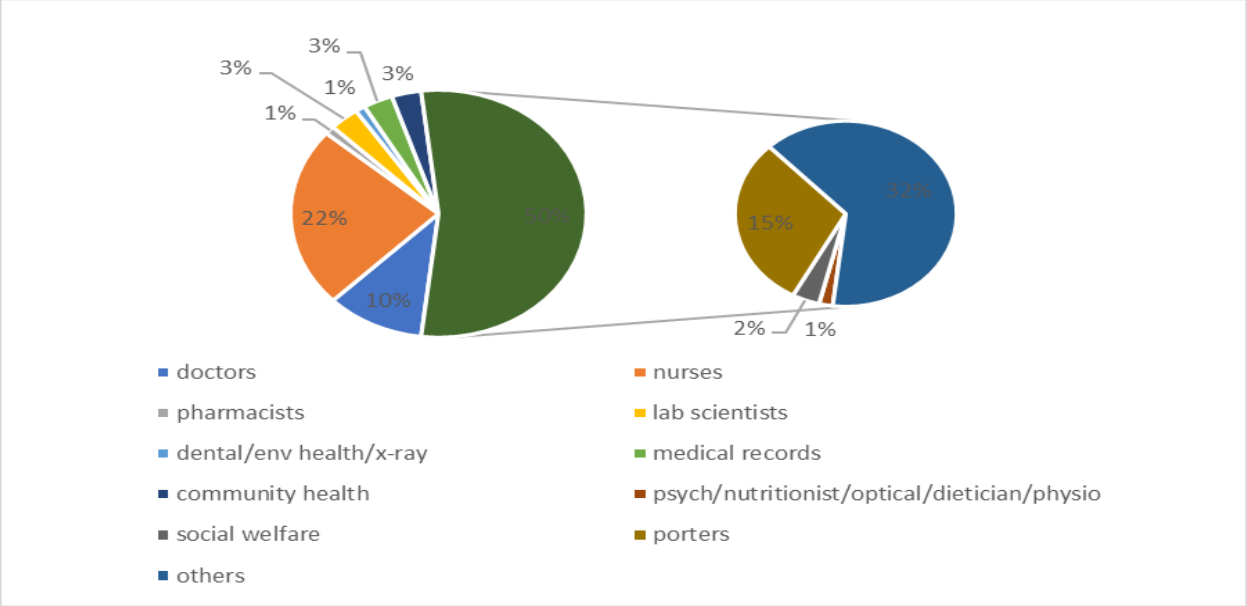

Fig. 1. Distribution of ATBUTH Staff by Cadre

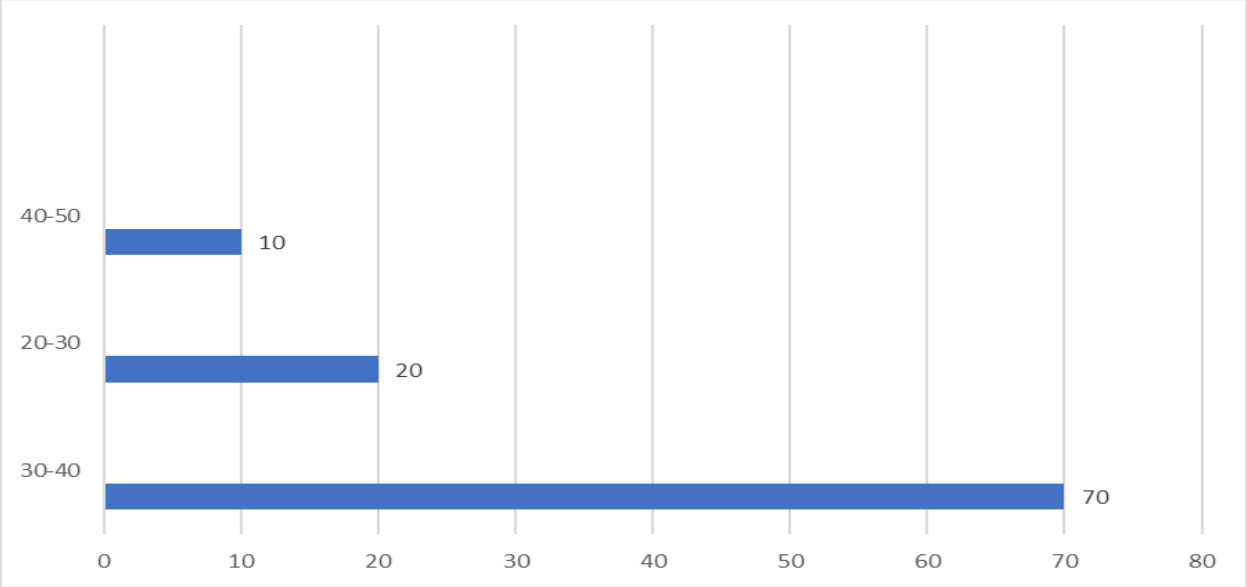

Fig. 2. Percentage distribution of respondents in years

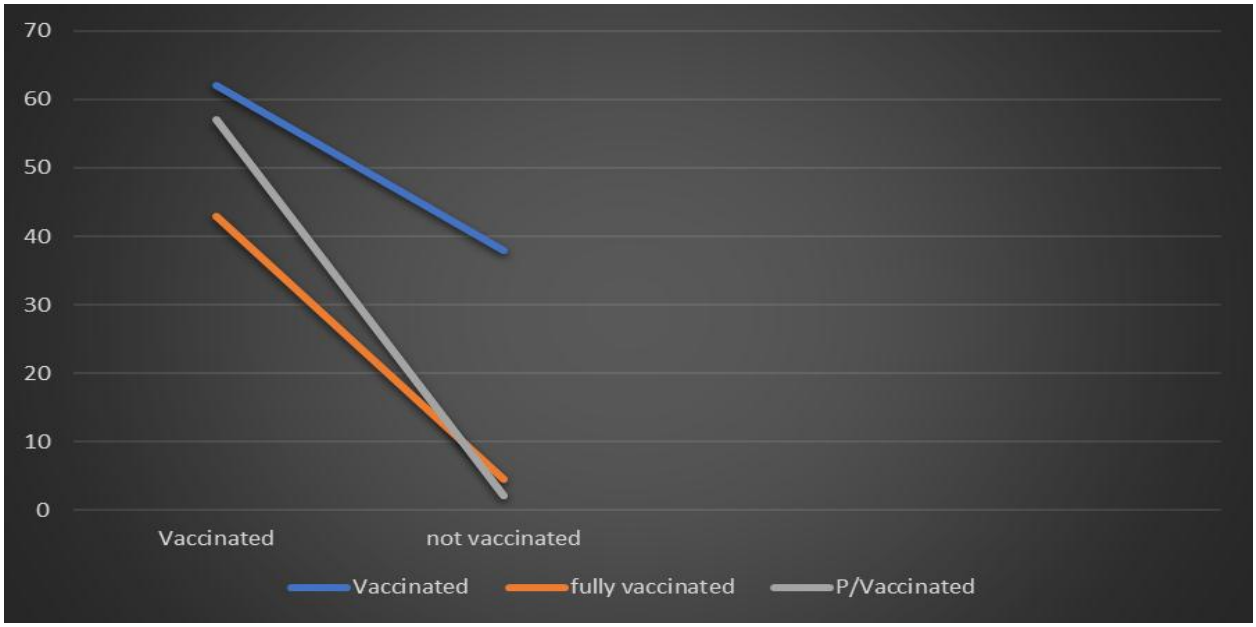

Fig. 3. COVID 19 vaccination status of ATBUTH staff

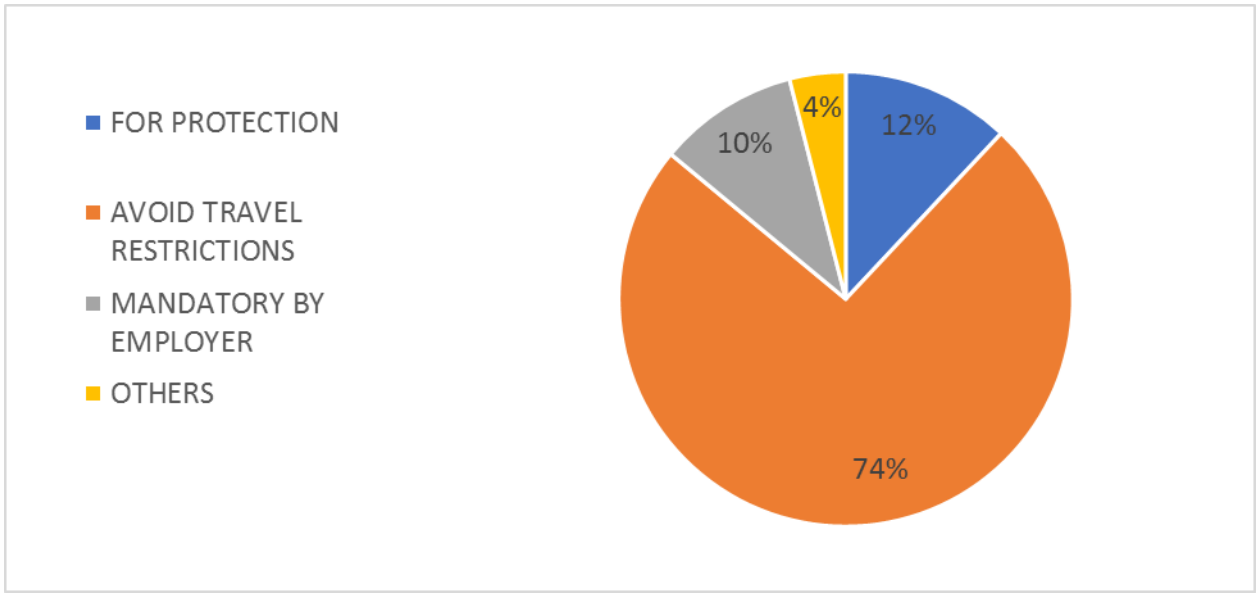

Fig. 4. Reasons for being vaccinated against COVID 19

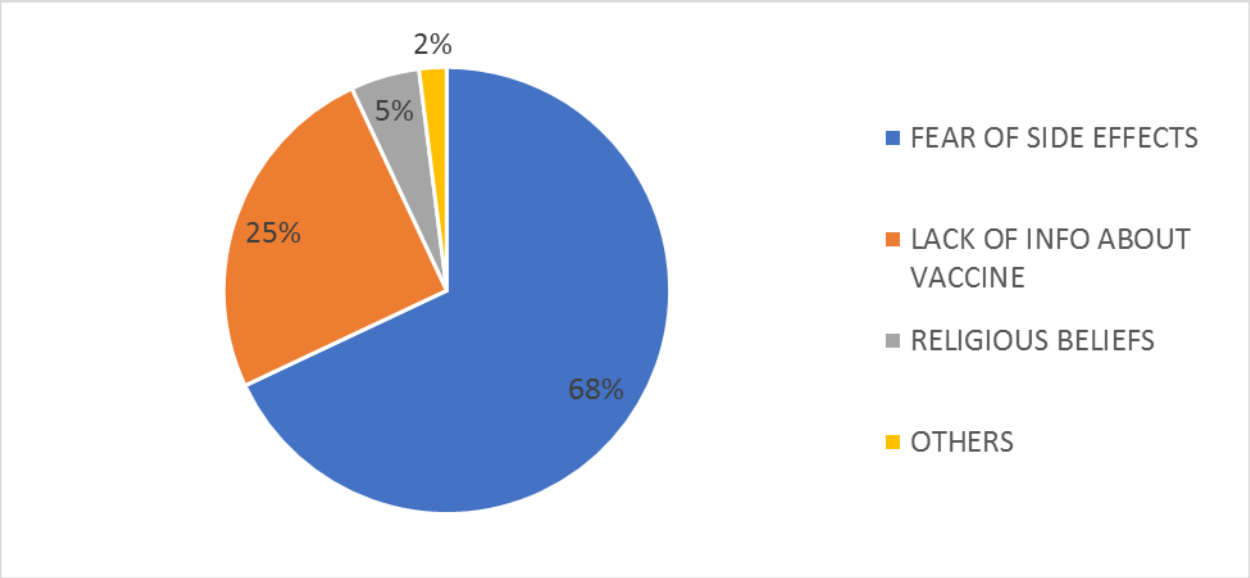

Fig. 5. Reasons for not being vaccinated against COVID 19

4. Discussion

Concerns about vaccine safety, efficacy, and potential side effects are top reasons for COVID-19 vaccination hesitancy in healthcare workers, this is similar to findings from a study done by Li et al, 2021. In the current study it was observed that 62 % were vaccinated, while 48 % were vaccine hesitant; it showed a lower vaccine hesitancy compared to 52.3 % reported in Ethiopia, 12.9 % reported in Qatar which was buttressed by Biswas et al, 2021. Reasons for being vaccinated ranged from for protection, avoid travel restrictions, mandatory by employer, others which were not so different from reports by Carcelen et al., 2021. Though the statistics vary, the common causes for acceptance and hesitancy remain similar in most studied health facilities.

5. Conclusion

Vaccine hesitancy is high among health care workers. Measures need to be put in place to adequately sensitise health care workers on the importance of vaccination.

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