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PS09.03 (695)**Willingness to accept Covid 19 Vaccines in a Rural Community in Kaduna State, Northwestern Nigeria**

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Purpose: In Nigeria, rural communities generally have poor access and utilization of health services including immunization services. In rural areas, household heads determine the utilization of health services including immunization. This study was conducted to determine the willingness to accept COVID-19 vaccine among household heads of a rural community in Kaduna State, Northwestern Nigeria.

Methods & Materials: A cross-sectional descriptive study was conducted among all household heads in Anguwan Mangu in February 2021 using total population sampling. A pre-tested, electronic based, semi-structured interviewer-administered questionnaire was used for data collection from household heads. Data was analysed using SPSS version 23. Univariate and bivariate analyses were conducted at alpha level of significance set at $p < 0.05$

Results: Three hundred and thirty-three respondents participated in the study. Age range was 15 to 80 years. Mean age of the respondents was 35 years (± 14.45). Only 55% (183/333) of the respondents were willing to accept COVID-19 vaccines. Major reasons for unwillingness to accept vaccines included; didn't feel the need to be vaccinated (4.5%), lack of trust in government (1.8%), belief that vaccine is used for population control (1.8%), belief that COVID-19 is not real (3%), and concerns over safety of the vaccines (1.8%). Household heads less than 50 years were more likely to accept the vaccines than those aged 50 and above (46% vs 41%) ($p < 0.592$), those who were educated were more likely to accept the vaccines (50% vs 46%) ($p < 0.235$), male household heads were more likely to accept vaccines than female household heads (66% vs 48%) ($p < 0.002$).

Conclusion: About less than half of the respondents were unwilling to accept the COVID-19 vaccines when available mainly due to misconception about the vaccines. This could pose a major setback in efforts towards controlling the pandemic. It is recommended that Zaria LGA health department should design effective health education intervention strategies based on these misconceptions directed towards enlightening the populace in rural areas in order to improve acceptability of COVID-19 vaccines to fast track the control of the pandemic.

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PS09.04 (438)**Hesitancy of COVID-19 vaccine in a working-age population in a town in Central Maharashtra in Western India: A survey based on vaccine characteristics**

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Purpose: Assessments of public sentiments and opinion polls on vaccinations recommend that COVID-19 vaccine hesitancy is globally expanding; nonetheless, the usefulness of opinion polls to plan mass vaccination campaigns for vaccines and to gauge acknowledgment in a country's populace is restricted. Hence, we aimed to evaluate the impacts of vaccine characteristics, information on herd immunity, and general medical practitioner (GP) recommendation on vaccine hesitancy in a working-age population in Kolhapur, a town in Central Maharashtra in Western India.

Methods & Materials: In this survey, adults aged 18-64 years residing in Kolhapur, with no history of SARS-CoV-2 infection, were randomly selected in April-2021. Participants completed a questionnaire on their background and vaccination behavior-related variables, and were then randomly assigned according to a full factorial design to one of three groups to receive differing information on herd immunity and to one of two groups regarding GP recommendation of vaccination. Participants then completed a series of eight discrete choice tasks designed to assess vaccine acceptance or refusal based on hypothetical vaccine characteristics, risk of serious side-effects, location of manufacture, and place of administration. Responses were statistically analyzed.

Results: Responses were collected from 843 working-age adults, of whom 163 (19.33%) opted for no vaccination (outright vaccine refusal) and 680 (80.66%) did not. Here, outright vaccine refusal was associated with a lower perceived severity of COVID-19, whereas vaccine hesitancy was lower when herd immunity benefits were communicated and in working versus non-working individuals, and those with experience of COVID-19. For a mass vaccination campaign involving mass vaccination centers and communication of herd immunity benefits, our results predicted outright vaccine refusal in 23.6% (95% CI 19.7-28.4) of the Kolhapur working-age population. Predicted hesitancy was highest for vaccines manufactured in China with 50% efficacy and a 1 in 10,000 risk of serious side-effects (vaccine acceptance 27.4% [26.8-28.0]), and lowest for a vaccine manufactured in the USA with >90% efficacy and a 1 in 1,00,000 risk of serious side-effects (vaccine acceptance 73.6% [69.6-78.1]).

Conclusion: COVID-19 vaccine acceptance depends on the characteristics of vaccines and the national vaccination strategy, amongst various other factors, in the working-age population in Kolhapur.

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PS09.05 (1051)**Integrating Health Belief model to determine factors associated with COVID-19 Vaccine Acceptance in Lebanon: Differences between health care workers and non-healthcare workers**

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Purpose: Vaccine acceptance is critical to the success of immunization programs, especially for emerging infectious diseases. This study aims to assess the willingness to receive the COVID-19 vaccine, and the factors associated with this willingness among healthcare workers (HCWs) and non-healthcare workers in Lebanon.

Methods & Materials: A web-based cross-sectional survey was conducted among Lebanese adults aged 18 years and above during November 2020 among Lebanese adults from all Lebanese provinces using a snowball sampling technique. Data were collected using an anonymous Arabic questionnaire that included sociodemographic, health-related variables, intention to receive COVID-19 vaccine, and the Health Belief Model covariates. Multivariable logistic regression analyses were performed to identify the factors associated with the COVID-19 vaccine acceptance among the 2 groups.

Results: A total number of 2802 participants completed the survey. The overall intention to receive a COVID-19 vaccine among the Lebanese adult population was 51.5%. HCWs expressed a higher willingness of getting vaccinated against COVID-19 than non HCWs (65.8% vs. 47%, $p < 0.001$). The factors that are positively associated with the willingness to vaccinate among the general population, non HCWs and HCWs were: older age, being married, living in urban areas, receiving influenza vaccine for this season, higher perception of susceptibility and benefits, concerns related to availability and accessibility of vaccines and recommendation of vaccine from health authorities. However, the previous refusal of any vaccine, concerns about vaccine safety, and side effects impacted negatively this intention. Female gender, importance accounted to religiosity, and concerns about the reliability of the manufacturer were negatively associated with vaccine acceptance among non HCWs. Conversely, good knowledge, vaccine intake by the public, and self-motivation were positively associated with this willingness. Of note, these factors were not significantly associated with such willingness among HCWs.

Conclusion: To control COVID-19 effectively, efforts targeting modifiable factors driving COVID-19 vaccine acceptance are required to increase the acceptance rate among the Lebanese population.

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PS09.06 (1072)

Memory B Cell Responses at 16 Weeks Following a Single Dose of AZD1222/Covishield in Sri Lankan Individuals

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Purpose: The dosing interval for AZD1222/Covishield vaccine was prolonged for ≥ 16 weeks, due to short supply in Sri Lanka. As robust secondary immune response depends on the presence of

memory B cell (Bmem), we investigated their frequency following a single dose of the AZD1222.

Methods & Materials: Bmem responses were assessed to S1, S2 and N protein of the SARS-CoV-2 by B cell ELISpot assays in 45 individuals after ≥ 16 weeks of receiving a single dose of the vaccine. The mean ± 2 SD of the background responses was defined as the threshold for positive response of antibody secreting cells (ASCs)/1 million cells.

Results: In this cohort, 40/45 (88.9%) individuals responded to S1, 39/45 (86.7%) to S2 and 36/45 (80%) to N. Responses to S1 ($p < 0.0001$, median 90, IQR 50 to 137.5 ASCs/1 million cells) and S2 ($p = 0.0067$, median 70, IQR 47.5 to 97.5 ASCs/1 million cells) were significantly higher than N (median 50, IQR 22.5 to 80 ASCs/1 million cells). A significant difference in the frequency of responses to S1 ($p = 0.0017$) and S2 ($p = 0.046$), were seen in different age groups, with a higher frequency of ASCs to S1 and S2 proteins in individuals age between 40-60 and > 60 years of age, compared to younger individuals. There was a significant, positive correlation for the frequency of ASCs to S1 (Spearman's $r = 0.49$, $p = 0.0007$), S2 (Spearman's $r = 0.32$, $p = 0.0308$) and N (Spearman's $r = 0.33$, $p = 0.0274$) with age.

Conclusion: 86.7% to 88.9% of individuals had Bmem to the spike protein of the virus, suggesting that a single dose of the vaccine, induced potent Bmem responses. Although 80% of individuals had a low frequency of responses to the N protein, which was not present in the vaccine, this could be due to the presence of cross reactive Bmem responses to N protein of previous beta-coronavirus infections, in older individuals.

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Topic 10: Diseases of Animals

PS10.01 (321)

Molecular Detection and Antibigram of *Bacillus cereus* Isolated from Dairy Goat with Mastitis in Malaysia

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Purpose: Mastitis is a major disease frequently reported in dairy goat industry. Mastitis caused by *Bacillus cereus* may (*B. cereus*) be characterised by a very marked degree of tissue damage and subsequently leads to production of abnormal mammary secretions. However, although the used of antibiotic therapy have increased, bacteriological cure rate are low due to emergence of antimicrobial resistance (AMR). The objectives of this study were to determine the prevalence of *B. cereus* in the milk obtained from dairy goat with clinical and subclinical mastitis and to determine the antibiotic susceptibility pattern towards *B. cereus*.

Methods & Materials: A total of 386 lactating does from 37 dairy farms in Malaysia were sampled in this study. All animals were screened and scored for mastitis using the California Mastitis Test (CMT) and 158 goats (307 mammary glands) were identified to be positive for clinical and subclinical mastitis. Identifica-