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Superstitious Attribution and Perceived Post-Vaccine Effects: Drivers of Vaccine Hesitancy in Rural Sri Lanka

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Background: In many rural communities, superstitious and astrological beliefs continue to shape how health and illness are understood. Everyday health changes, such as age-related conditions or coincidental illnesses, are often misattributed to prior vaccination. These belief-driven perceptions can reinforce fear, mistrust, and hesitancy toward future doses, emphasizing the need for public health strategies that address cultural and cognitive factors influencing vaccine confidence.

Objective: To determine the prevalence and associated factors for complications perceived by participants as being related to COVID-19 vaccination, and to identify predictors of future vaccine hesitancy in rural Sri Lanka.

Methods: A quantitative study with a cross-sectional analytical study design was conducted in the rural Anuradhapura Sri Lanka, using a self-administered questionnaire developed by the researchers, and the data obtained were analysed with 95% confidence interval using descriptive and analytical statistics.

Results: The sample consisted of 541 participants who have received at least one dose of the vaccine. In our population, 319 (59.0%) were females, and the mean age was 46.9 years. 419 (77.4%) participants were educated below ordinary levels. While 384 (71.0%) of population believes the vaccine was effective, 259 (47.9% 95%CI 44%-52%) regrets accepting the vaccine. 300 participants (55.4%) had developed complications perceived as being related to the vaccine and the commonest complications were joint pain (n=184, 34.0%), back pain (n=170, 31.4%), fatigue (n=135, 24.9%) and muscle pain (n=121, 22.4%). Independent predictors associated with developing complications included female gender (OR 2.57, 95% CI 1.10-2.25), increasing age (OR 1.03, 95% CI 1.01-1.04) and having a familial chronic disease condition (OR 1.69, 95% CI 1.18-2.42). 365 (65.8%) of the population will not accept a new vaccine in a future pandemic. People who have related the complications with COVID-19 vaccine (OR 5.63, 95% CI 3.80-8.56) and who believes in astrology (OR 1.54, 95% CI 1.02-2.34) are the least likely to accept.

Conclusion:

Perceptions relating the complications to the vaccine were shaped by various sociodemographic and cultural factors, and the along with the experiences of recent vaccination, the future vaccine acceptance is at risk, emphasizing the necessity of targeted education and trust building.

Keywords: COVID-19, vaccine complications, vaccine hesitancy