routine vaccination, and non-responders are not identified. Healthcare workers are considered at high risk of being infected with hepatitis B through work-related injuries and are recommended to prevent infection through vaccination if they do not have protective levels of antibodies. Antibody levels measured years after primary vaccination will be low due to natural waning. We conducted this study to determine the antibody levels after one, two and three doses of hepatitis booster vaccine doses in individuals who have completed primary vaccination in infancy.

Methods: We performed a descriptive prospective study to determine the effect of booster hepatitis B vaccines by measuring the anti-HBs levels after booster vaccination on a group of medical students who had completed three doses of primary vaccination in infancy but no longer have protective levels of antibody for hepatitis B surface antigen (anti-HBs <10 mIU/ml). Antibody levels were measured at 0 (prior to the first dose), 7 days after the first dose, 28 days (prior to the second dose), 6 months (prior to the third dose) and one month after the last dose of vaccine.

Findings: 152 second-year medical students consented to be included in the study. Only 56 were able to provide written evidence of vaccine completion, 11 already had an anti-HBs >/= 10 mIU/ml, and seven were excluded because they were unable to complete the study.

Conclusion: 83.78% of the participants were able to achieve protective levels of antibodies after the first dose of the hepatitis B booster vaccine and only 16.22% required a second dose to increase antibodies to protective levels.

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THE EFFECTIVENESS OF COVID-19 VACCINES AMONG ELDERLY: A SYSTEMATIC REVIEW

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Intro: Peoples all around the world have raised concerns over the efficacy and safety of the recently produced COVID-19 vaccine as a potential method for encountering the COVID-19 pandemic. Thus, this study aims to determine whether the COVID-19 vaccination effectively protects older people, a particularly vulnerable population group. Thus, few parameters associated with the elderly will be assessed. Specifically, it investigates how effective the COVID-19 vaccine in lowering the incidence of SARS-CoV-2, as well as how the vaccination influence the rate of hospitalization and mortality associated with SARS-CoV-2 infections**.**

Methods: Literature search was conducted in two databases, namely, PubMed and ScienceDirect. A total of 7 studies were included in this systematic review which consist of 6 prospective cohort studies and 1 retrospective cohort study. The study quality assessment obtained via Newcastle-Ottawa Scale (NOS) ranged between 6 and 8 stars.

Findings: The results showed that vaccinated elderly had a lower risk of contracting COVID-19, less likely to be admitted to hospital/critical care unit and a lower death rate compared to the elderly who were not vaccinated. The reported vaccine efficiency are 73- 97 % effective against SARS-CoV-2 infection, 47-86% against COVID-19-related hospitalization and 51-94% against death respectively.

Discussion: These results suggest that the COVID-19 vaccination offers a significant level of protection against infection with COVID-19 in older people. Furthermore, the elderly should be actively encouraged to have the COVID-19 vaccine and any further doses that may be required due to the beneficial effects and high level of protection.

Conclusion: In conclusion, late adults and senior citizens are strongly encouraged to consider receiving the upcoming dose of COVID-19 vaccines in order to extend the immunity provided by the vaccination, resulting in improved health. In addition, booster shots should be actively encouraged to avoid the unfavourable outcome of severe COVID-19 infection.

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PREDICTORS OF SEVERE LEPTOSPIROSIS ON ADMISSION: A SRI LANKAN STUDY

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Intro: Leptospirosis is a re-emerging zoonosis endemic to Sri Lanka. Considerable variation is seen in the clinical manifestations among leptospirosis patients and spectrum ranges from uncomplicated febrile illness to multi-organ failure and death. Therefore, this study aimed to identify severity predictors among a leptospirosis cohort in Sri Lanka.

Methods: This was a prospective hospital-based study carried out during 2017 in 2 selected hospitals in Western province of Sri Lanka. Clinically suspected leptospirosis patients were enrolled according to Communicable Disease Epidemiology Profile, WHO. Leptospirosis was confirmed by MAT titer ≥1:320, culture or by polymerase chain reaction. Leptospirosis confirmed patients were divided into patients with and without complications based on acute kidney injury, pulmonary hemorrhage, myocarditis and liver failure.

Findings: Among 79 leptospirosis confirmed patients, a total of 28 (35.44%) patients developed complications. The mean age of patients was 45.05±16.19 and most were males (87.34%). The major complications were acute kidney injury (68%), pulmonary hemorrhage (36%), liver failure (36%) and myocarditis (14%). Having dyspnea (OR-7.10; CI-1.31-38.42; p=0.023), icterus (OR-6.45; CI1.72-24.05; p=0.006), oliguria (OR-5.22; CI-1.87-14.59; p=0.002) and cardiac arrythmias (OR-5.92; CI-1.05-33.24; p=0.043) as clinical manifestations on admission were significantly associated with leptospirosis complications. Further patients with white blood cell >11,000 mm3 (OR-3.64; CI-1.34-9.86; p=0.011), neutrophil >75% (OR-13.41; CI-1.66-108.10; p=0.015), serum glutamicoxaloacetic transaminase >40 U/L (OR-5.89; CI-1.21-28.53; p=0.028), serum creatinine >120 μmol/L (OR-29.14; CI-6.05-140.22; p<0.001), blood urea >6.5 mmol/L (OR-15.00; CI-1.82-123.56; p=0.012) and total bilirubin >21 μmol/L (OR15.20; CI-3.48-66.33; p<0.001) in laboratory investigations were defined as independent risk factors among patients with complications.

Discussion: Leptospirosis known to be managed well if diagnosed earlier and identification of predictors for severe form of disease plays a crucial role in reducing complications.