

Considerations related to Sanofi Pasteur Covid-19 vaccine VidPrevtyl Beta®: use of the adjuvant squalene from an Islamic jurisprudential viewpoint: an independent research

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In relation to COVID-19, from April 3rd onward, ‘People aged 75 years and older, residents in care homes for older people, and those aged 5 years and over with a weakened immune system [were] offered a booster of coronavirus (COVID-19) vaccine [in] spring’.¹ A dose of Sanofi’s VidPrevtyl Beta COVID-19 vaccine is being offered by the NHS for free.² The elderly in our communities who face language barriers with regard to the details of the vaccine are likely to seek the opinion of their children and grandchildren. There are nearly 12 million (11,989,322) people aged 65 and above in the UK of which 5.4 million people are aged 75+; 1.6 million are aged 85+; Over 500,000 people are 90+ (579,776); and 14,430 are centenarians.³ Family members consequently might consult medical and Islamic sources. For all parties involved in the decision-making process, an informed decision is crucial.

As the VidPrevtyl Beta vaccine is intramuscular, receiving it is not considered to affect the validity of one’s fast.⁴ The vaccine is taken to strengthen immunisation; its contents neither reach the stomach nor provide any significant amount of nutrition. A single vial contains 0.5 ml which includes the colourless antigen and the whitish milky adjuvant emulsion.⁵ One must bear in mind, however, that receiving a vaccine could cause minor short-lasting (less than 3 days) side effects of mild to moderate severity such as fever.⁵ The side effects might affect one’s ability to fast for the next few days.⁴ Potential side effects could include injection site pain, headache, myalgia (muscle aches and pain), arthralgia (pain in a joint), and chills.⁵

The NHS is patient-centred and as such, individuals are being offered a choice to either accept the VidPrevtyl Beta vaccine or choose the Pfizer BA.4/5 or Moderna vaccines. The AstraZeneca vaccine is no longer being

supplied for routine use in the UK due to the high risk of myocarditis.⁶

The main reason for the MHRA to supply the nation with the VidPrevtyl Beta vaccine is that it would trigger a better immune response in patients over 75 years of age and lead to stronger immunity.⁷ This vaccine, therefore, is hoped to be more effective than the Pfizer and Moderna vaccines. The key ingredient added to this vaccine is the adjuvant squalene. An adjuvant is an ingredient used in some vaccines that helps create a stronger immune response in immune-compromised populations; the inclusion of an adjuvant would help to boost the inherently weak immune response^{8,9} and has shown to be effective in the very young and the very old.^{10,11} As such, adjuvants help the vaccines to be more effective. The adjuvant used in the VidPrevtyl Beta vaccine is the organic compound squalene.

A variety of sources produce squalene such as olives and rice, however, shark liver produces an oil that is most effective as an adjuvant.¹² Whilst squalene from these sources would pose no objections concerning permissibility in terms of ingredients, its use in vaccines is limited. Yielding an amount of 50 kg of phytosqualene would require a hectare of land planted with olive trees¹³ The extensive and laborious oil refining processing also involves high financial costs.^{14,15} On the other hand, extracting squalene from shark liver oil is a process that is much simpler and cheaper. Over 98% of pure squalene can be extracted from shark liver oil in a single distillation.¹³

Synthetic squalene is another alternative, however, when high demand is required for a vaccine, a bottleneck could form as a result of the uncertainty of the quantity as well as unavailability.¹⁶ If squalene from other sources is to be used, extraction methods would need to ensure that the purity level matches the purity level of squalene from

shark liver oil, which is 99% pure. As such, due to its stability-enhancing properties and biocompatibility, a national drive is in effect to promote the squalene-based COVID-19 vaccines for the elderly and immune-compromised populations. Nevertheless, with growing concerns around the depletion of wild sharks,^{13,17} industries are likely to move toward squalene from genetically engineered organisms, such as yeast and bacteria.¹⁸

The VidPrevtyn Beta vaccine is also the recommended vaccine for patients that are allergic to mRNA vaccines such as Pfizer and Moderna. An allergic reaction to mRNA vaccines could result in anaphylactic reactions such as experiencing abdominal cramps, fast heart rate, swollen eyes and face, red itchy rashes, wheezing, and fainting. VidPrevtyn Beta has shown efficacy as a primary and as a booster vaccine in adults who had received primary vaccination with either mRNA.⁵

If a patient wishes to have the Nuvaxovid COVID-19 vaccine then specific clinical criteria must be fulfilled before a healthcare professional can recommend that the patient is given the Nuvaxovid vaccine. Moreover, the Nuvaxovid vaccine would be in a controlled environment; after consultation with a health expert at a hospital. A post-vaccination observation of the patient would also be required by a health expert for 30 minutes.¹⁹ Moreover, patients wishing to have alternative vaccines would be expected to make their own arrangements to reach designated locations where the vaccines are offered. Patients also need to bear in mind that alternative vaccines are now also limited. Moreover, the PHE has stated that 'From the end of the spring 2023 campaign, the primary course of COVID-19 vaccine becomes a targeted offer to those at higher risk and only during seasonal campaigns. The main exception to this would be unvaccinated individuals aged five years and above who become or have recently become severely immunosuppressed'.⁵

With regards to the shark oil squalene in the vaccine, patients might have questions from an Islamic jurisprudential viewpoint with regard to its permissibility. According to the majority of Sunni schools (Maliki, Shafi, and Hanbali), all marine creatures are permitted for consumption including sharks from the genus *squalus*. The Sunni Hanafi school, on the other hand, consider fish to be permissible for consumption whereas the Shia Ja'fari school permit only scaled fish.²⁰ Nevertheless, a pertinent point to note in relation to consumption is that omega tablets are not the same as vaccines. Whereas the former is consumed for nutritional

purposes, vaccines are injected for immunisation. For patients with weak systems who require the vaccine to help strengthen their immunity, and for whom squalene is the best medical option, the vaccine would be permitted due to necessity. The necessity to resort to shark-derived squalene in vaccines, hopefully, is temporary.

Nevertheless, for Muslims who are concerned about squalene's nutritional value,²¹ receiving the vaccine could arguably invalidate the fast. Patients with weak immune systems, however, are advised by the Qur'an (2:185) to postpone fasting until they can fast healthily. The nutritional value of the VidPrevtyn Beta vaccine and its impact on the validity of fasting are points that patients and Muslim jurists might want to discuss further. As such, rulings related to consumption are inapplicable to vaccines. On that note, Seqirus's flu vaccine Flud, which is offered to the elderly over the age of 65 also contains squalene^{22,23,24,25} and has been received by Muslim patients. The percentage of patients aged 65 years and over of South Asian ethnicity in England who received the seasonal influenza vaccine in 2022-2023 include 72% Asian or British Asian Indian, 55% Asian or British Asian Pakistani, and 68% of Asian or Asian British Bangladeshi.²⁶

Returning to the point of providing advice to the elderly, Rasulullah (*Salla Allahu alayhi waalihi wasallam*) reminded us that the one whose advice is sought is accountable. As such, Muslim jurists are advised to be fully informed regarding the details of the vaccines by consulting health care professionals or to signpost questioners to the best source of medical advice. Due to fears around fertility, whilst males have enjoyed the benefits of vaccination, by contrast, females have been deprived. As such, the autonomy of female patients is also crucial.

Muslim families and Muslim faith leaders are advised to educate themselves and the community concerning the VidPrevtyn Beta vaccine. When the NHS offers the vaccine to the elderly, with accurate information, patients would be able to make an informed decision. The elderly in our communities are vulnerable. *Alhamdulillah*, through the means of the NHS COVID-19 vaccination programme, we are fortunate to continue enjoying the company of the elderly in our community. According to PHE, 'approximately 46,500 admissions were prevented in those aged 65 to 74, 73,800 in those aged 75 to 84, and 58,600 in those aged 85 and over'.²⁷ With the next step in the vaccination programme, we pray that our elders remain safe and healthy *bi'idhnillah*.

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