Use of Vaccines from Ḥarām Sources

Further to our conversation on Telegram, I email hoping that you may be able to present some general guidance on vaccinations, especially those with components obtained or derived from haraam sources.

I also hope that you may be able to provide a more specific answer from the Islamic perspective on the following question:

“Certain common children's vaccines are known to have been propagated on cells taken from monkeys (Vero cells) and also on cells taken from aborted human babies. What is the appropriate Islamic standpoint on taking such vaccines? Other vaccines that contain gelatine and do not have alternatives are permissible, but are risks of disease significant enough to warrant this?”

Fatwa No: 1439/98

Vaccines can be divided into four broad categories based on how the immune system would react, who is being vaccinated and the best method of creating the vaccine; they are as follows:

- **Live-Attenuated Vaccines**
  - Measles, Mumps and Rubella
  - Rotavirus
  - Smallpox, Chickenpox
  - Yellow Fever
  - Shingles

1 Available at [https://www.vaccines.gov/basics/types/index.html](https://www.vaccines.gov/basics/types/index.html), Accessed on 23rd April 2018
• **Inactivated Vaccines**
  
  - Hepatitis A
  - Rabies
  - Flu (Shot)
  - Polio (Shot)

• **Subunit, Recombinant, Polysaccharide, and Conjugate Vaccines**
  
  - Hib Disease
  - Hepatitis B
  - HPV
  - Whooping Cough
  - Pneumococcal Disease
  - Meningococcal Disease

• **Toxoid Vaccines**
  
  - Diphtheria
  - Tetanus

We tend to find that the live-attenuated and inactivated vaccines are cell-based vaccines as they are vaccines for viral diseases which cannot replicate outside of cells and the other vaccines are for bacterial infections; having said that Hepatitis B is also considered as a virus. The cell-based vaccines often use cell lines which involved, in its inception, the taking of cells from an animal or aborted baby and grown for many generations in a laboratory.

Hopkins University took cells from the womb of Henrietta Lacks in 1952; these cancer cells have been used for many medical advances. Another anonymous woman in 1962 from Sweden had her foetus aborted; the aborted foetus had its lungs dissected at the Karolinska Institute in Stockholm. It was at the Wistar Institute in Philadelphia where Leonard Hayflick created the WI-38 cell line; which was a cell replicated many times in order to produce a group of normal human cells with a consistent genetic make-up in order to produce the perfect environment for making vaccines against viruses like measles, rabies.
and rubella. There is also the MRC-5 cell line derived from a foetus aborted in 1966 in the United Kingdom.

The companies that use these cells, for example Merck, have made it clear that no new tissue has been added to the fifty-year plus original cells to prepare the vaccines. Dr Offit from the Children’s Hospital of Philadelphia adds that virtually nothing of the original cells remains,

‘There are perhaps nanograms of DNA fragments still found in the vaccine, perhaps a billionth of a gram. You would find as much if you analysed the fruits and vegetables you eat.’

The view has been supported by many others, including the Oxford Vaccine Group who detail the process and has been quoted in full

**Human Cell-lines**

For some vaccines, the active ingredient has to be grown in laboratories on cultures that contain human cell-lines. This is because the viruses are specific to humans and will only grow in human cells. Once grown, the viruses are purified several times to remove the cell culture material. This makes it unlikely that any human material remains in the final vaccine.

For vaccines used in the UK, human cell lines are used to grow viruses for these vaccines:

- the rubella part of both MMR vaccines (MMRVaxPro and Priorix)
- the Shingles Vaccine (Zostavax)
- both Chickenpox Vaccines (Varivax and Varilrix)

The cell-lines used (called WI-38 and MRC-5) were started in the 1960s using small quantities of lung cells taken from two aborted foetuses. The abortions were legal and agreed to by the mothers, but they were not performed for the purpose of vaccine development. The original foetal cells have long since disappeared. Because these cell-lines still exist nearly 50 years later, no other foetuses are needed to make human cell-lines for growing these vaccine viruses.

**Animal Cell-lines**

Viruses for some vaccines are grown in laboratories on animal cell-lines. Again, this is because viruses will only grow in human or animal cells. In the UK schedule this applies to these vaccines:

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2 Available at [http://www.slate.com/articles/technology/future_tense/2017/03/the_woman_whose_aborted_fetus_helped_create_the_rubella_vaccine.html](http://www.slate.com/articles/technology/future_tense/2017/03/the_woman_whose_aborted_fetus_helped_create_the_rubella_vaccine.html) Accessed on 23rd April 2018


5 Available at [http://vk.ovg.ox.ac.uk/vaccine-ingredients#human-cell-lines](http://vk.ovg.ox.ac.uk/vaccine-ingredients#human-cell-lines) Accessed on 23rd April 2018
- The polio part of the 6-in-1 Vaccine (Infanrix Hexa)
- The polio part of the Pre-School Booster Vaccines (Repevax, Infanrix IPV and Boostrix-IPV)
- The polio part of the Teenage Booster Vaccine (Revaxis)
- The Nasal Flu Vaccine (Fluenz)
- The Rotavirus Vaccine (Rotarix)

Viruses for these vaccines are grown on Vero cells. This is a cell-line started in the 1960s using a few kidney cells from an African green monkey. The measles and mumps parts of the MMR vaccines (MMRVaxPro and Priorix) are grown on a culture which began with cells taken from a chick embryo. As with human cell-lines, the original cells have long since disappeared. There is no risk that animal diseases will be transmitted by vaccines grown on animal cells.

However, not only must we consider the source of the vaccines we must also take into consideration the various agents added to the vaccines, in particular to stabilise the vaccine; two of specific concern are pork gelatine and human serum albumin. Pork gelatine is found in the MMR, Shingles and Children’s Nasal Flu Vaccines as it is a required stabilising agent to protect them from effects of extreme temperatures and to maintain shelf-life. We also find human serum albumin, a substance from human blood, is also used as a stabiliser, in this case for the Chickenpox Vaccine.⁶

Several key issues need to be explored based on the question posed at the outset

i. Can we administer vaccines, a type of medicine, prior to the onset of an illness?
   It is permissible to seek medical assistance or intervention prior to becoming ill with a certain illness.⁷

ii. Are the vaccines from cell lines permissible to use?
   The vaccines when administered to humans contain infinitesimal amounts, if any, of original cell matter. We are referring to nanograms of DNA matter. As a result, even though we do not condone research on embryos, as it has already been conducted several decades ago, the vaccine which currently exists is permissible to use when there is a real need and secure knowledge that one will contract the disease and that will have a serious impact on health of the individual and/or society.

iii. Can we use those vaccines with pork gelatine or human serum albumin stabilisers?
   Those medicinal interventions which contain ḥarām substances maybe used when there is some confidence that a person will be cured, or an illness prevented as is

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⁶ Available at [https://www.nhs.uk/conditions/vaccinations/vaccine-ingredients/?tabname=all-about-vaccinations](https://www.nhs.uk/conditions/vaccinations/vaccine-ingredients/?tabname=all-about-vaccinations) Accessed on 23rd April 2018

⁷ مسال استفاده طیوان، ممکن است با خطر مسافرت که لازم است و همچنین با وجود کادمن‌ها، از محصولاتی که به این مواد وارد نمی‌شوند به نفع و در خورد صحیح است.
relevant in our situation. This would be after exhausting all ḥalāl possibilities first and that the disease would have a serious impact on the individual's health. One cannot consider the nasal flu vaccine to fit that definition unless there were other additional health issues which would be exacerbated if the individual contracted flu. The fuqahā mention a sound Muslim medical expert's view to be the deciding factor for administering medicines containing ḥarām substances. We now have access to medicinal journals and medical research so that can be utilised to determine its effectiveness taking into consideration the sharīʿa. We must also bear in mind the fact that many diseases, which have been vaccinated against no longer exist. 8
iv. Is there enough evidence to justify the use of the impermissible?

We have numerous examples where diseases have been eliminated in a region due to vaccination. In 1979 the US eliminated Polio. Smallpox has been eradicated in 1980, meaning eliminated worldwide, a disease that would kill 35% of those who had contracted it and left the others blind or scarred. Another example is Guinea worm disease which is on the verge of eradication and six others which are potentially eradicable as stated by the Carter Center International Taskforce for Disease Eradication. They are Elephantiasis, Polio, Measles, Mumps, Rubella and Porc Tapeworm.

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8 Available on [https://www.historyofvaccines.org/content/articles/disease-eradication](https://www.historyofvaccines.org/content/articles/disease-eradication) Accessed on 23rd April 2018

In conclusion, vaccines are permissible to use, even those which contain ḥarām substances, when there is no ḥalāl alternative and there is sufficient research data which can prove statistically that the vaccine is of benefit. Also, those vaccines which were originally based on human cells or animal cells, for instance cell-lines like WI-38 and MRC-5, are permitted to be used as the vaccines do not contain any original material worthy of concern.

والله أعلم وعليم أتم

Amjad M Mohammed
7th Sha‘bān 1439/24th April 2018

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