

Islamic and Scientific Views on The Law of Using Urine Samples as Candidates for Early Detection of Cancer

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Abstract

The growing prevalence of cancer patients is a significant obstacle to global human growth. Prostate carcinoma is one of the types of cancer that kills the most men. The second most frequently diagnosed kind of carcinoma is prostate cancer (Pca), which is also the sixth biggest cause of death in males globally. Pee can be a candidate for early diagnosis of non-invasive cancer; however the rule on the use of urine as a sample in Islam has not yet been thoroughly addressed. Prostate cancer testing is still an intrusive procedure. The goal of this study was to ascertain the legality of using urine samples as potential candidates for the early identification of cancer from both an Islamic and scientific standpoint. Meta-analysis is combined with a qualitative methodology. According to the study's findings, urine may be a candidate for the early detection of cancer. Legally speaking, urine can be used as long as it is not applied directly to patients either topically or orally in order to prevent it from becoming haram. This is because the authors were unable to find any evidence to support the prohibition of using urine on patients.

Keywords: Urine Samples, Cancer, Islamic Law.

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Introduction

The condition known as carcinoma is brought on by unchecked, invasive, metastatic processes of cell proliferation and loss of apoptosis, and the causes of different types of carcinoma include genetic diseases, carcinogenic substances, viral infections, the environment, and way of life. (Foster et al., 2018). Prostate carcinoma is one of the types of cancer that kills the most men. The second most frequently diagnosed kind of carcinoma is prostate cancer (Pca), which is also the sixth biggest cause of death in males globally. In 2008, there were an estimated 914,000 new cases, which represented 6% (258 400) of all carcinoma-related fatalities in men. In contrast to the west, PCa is not common in Indonesia. The average age of the 971 PCa patients reported by the Indonesian Society of Urological Oncology (ISUO) between 2006 and 2010 was 68.3 years, and PCa was discovered in 563 (57.9%) of the cases after prostate biopsy. (Yuri et al., 2015).

The most frequent diagnosis for finding prostate cancer, according to Dijkstra (2014), are PSA (prostate-specific antigen) testing, biopsy, transrectal ultrasound testing, and digital rectal examination (Bunting, 2002; Ilic, 2013; Heijnsdijk, 2015), that are invasive or harmful to patients, hence a new technique is required to identify non-invasive prostate cancer in those individuals. (Schalken, 2014). The kidneys discharge urine, a leftover fluid that is then eliminated from the body through urination. Urine also contains exosomes. (Wu et al., 2017). Exosomes are secreted vesicles that represent the tissue's origin and facilitate cell-to-cell communication. Exosomes in urine include genetic material such as DNA, RNA, mRNA, microRNA, siRNA, and other genetic material, making them potential non-invasive substrates for the development of biomarkers for different malignancies, including prostate cancer. (Hessels & Schalken, 2013).

Urine has been utilized as a biomarker for breast cancer, according to a number of studies on the subject conducted in different nations. (Li et al., 2020), urine biomarkers in lung cancer (Zhang et al., 2018), and using urine as a source of bladder cancer biomarkers (Dai et al., 2016; Ng et al., 2021; Wenda-piesik & Buszewski, 2022). According to Yenti (2020), the phenomenon of using urine as therapy has long been practiced. This is derived from a hereditary tradition that is passed down through word of mouth, so there is no clear documentation of the first evidence or the best time to perform this therapy. Due to the fact that the majority of Indonesians adhere to Islam, which regards urine as filthy, the use of urine as therapy in that country is restricted to exterior wounds and dripping on the eyes. Therefore, researchers are interested in how the Islamic rule on the use of urine as a biomarker for early cancer diagnosis, especially prostate cancer.

Numerous investigations on the utilization of urine have been carried out by Hirschfeld et al., (2020) specifically looking into the possibility of using mRNA found in urinary exosomes

as a non-invasive diagnostic for breast cancer. by review Eskra et al., (2019) to determine the best method for prostate cancer urine detection using literature and meta-analysis research. Fiqh and Health (Review of the Law of Urine Therapy), a research-based literature review by Chaniago (2011) Using a variety of hadiths and holy verses from the Qur'an as a guide, it was discovered that there is no explicit prohibition against eating urine in the verses or hadiths. However, it is clear from the wording of the hadith and the Quran that it is improper to drink anything that is considered to be unclean. If we look more closely at this urine's condition, we can conclude that it is a filthy substance and should not be consumed.

Based on the description above, some studies that focus on the use of urine samples for disease detection have not discussed the law of their use from an Islamic legal perspective, so this research has not yet been implemented.

The Sragen district health office has a tool for detecting RNA content in urine samples. This research was carried out between May and August 2022 by conducting laboratory tests at the regional health laboratory (labkesda), isolation RNA with Polymerase Chain Reaction (PCR), for detection RNA contains using NanoVue and a meta-analysis was then done on the potential content of urine samples and perspectives on use. Islamic law allows for the medicinal use of urine samples using literature study and meta-analysis. Three random adult male male pee samples were utilized as the samples, and laboratory tests were run three times (triplo) on each sample to determine its average RNA content, which was then used to confirm the presence of RNA in the urine.

Laboratory result test of RNA content for urine samples

On May 31, 2022, urine samples were submitted for testing done in triples with two different types of analytical parameters: the color of the urine sample and the RNA concentration of the urine sample (3x replications). The urine sample test results, which were acquired on June 10, 2022, are shown in table 1.

Table 1. Test results for urine samples

No.	Samples Code	Unit of Analysis	Analysis Parameters	
			Urine Color	RNA Concentration
1	S1	(ng/ μ l)	Not Cloudy	6.1
2	S2	(ng/ μ l)	Not Cloudy	9.8
3	S3	(ng/ μ l)	Cloudy	56.8
4	S4	(ng/ μ l)	A bit Cloudy	34.0
5	S5	(ng/ μ l)	Not Cloudy	9.5
6	S6	(ng/ μ l)	A bit Cloudy	28.4
7	S7	(ng/ μ l)	A bit Cloudy	32.0
8	S8	(ng/ μ l)	Cloudy	115.2
9	S9	(ng/ μ l)	Not Cloudy	16.0
10	S10	(ng/ μ l)	Not Cloudy	10.7
11	S11	(ng/ μ l)	Cloudy	42.0
12	S12	(ng/ μ l)	Not Cloudy	22.4
13	S13	(ng/ μ l)	Not Cloudy	12.1
14	S14	(ng/ μ l)	Not Cloudy	24.0
15	S15	(ng/ μ l)	Not Cloudy	20.4

Based on the results of the table above, it is found that there is a relationship between urine color and the amount of RNA concentration in the urine sample, in samples S1, S2, S5, S9, S10, S12-S15 in samples with urine color that is not cloudy, the urine concentration is in the range of 6.1-22.4 ng. / μ l, while in urine samples with a slightly cloudy color in samples S4, S6 and S7, the RNA concentration ranged from 28-34 ng/ μ l, and in urine samples with cloudy color as in samples S3, S8 and S11, the range of urine samples with concentrations 42-111.5 ng/ μ l. this is related to Graham et al., (2021), It states that there is a relationship between the amount of concentration density and the content of an object or material; in this case, the more RNA is present at the time of urine RNA isolation, the higher the urine concentration.

In order to validate that each urine sample includes RNA, which can later be utilized as a biomarker for the diagnosis of a disease and is non-invasive because it does not hurt patients during sampling, the RNA concentration of urine samples is tested (Chen et al., 2016; Hessvik & Llorente, 2018) The microRNA process in urine sample exosomes as a potential source of cancer biomarkers will be covered in this study.

History of the Use of Urine as a Medical Therapy

Urine therapy has a long history and is practiced in both the East and West. It has strong ties to Buddhism in Tibet and Hindu culture in India as well as other Eastern nations including Japan, China, and Taiwan. Europe, America, and other countries in this region are all home to medical facilities in the western world. Table 2 provides the following history of urine use in many parts of the world.

Table 2. The Evolution of Urine Use Throughout History

No	Name of Country	History of Urine Utilization
1	India	A manuscript called Shivambu Kalvavidi, which has 107 verses and is a component of the book DamarTantra, describes the use of urine therapy (method of drinking urine to stay young).
2	Tibet	Because it is thought that the senior priest's urine has a high efficacy in curing, lamas (Tibetan priests) who are ill are compelled to swallow the pee of their senior priest.
3	China	The director of the Cung Wei surgical hospital, Dr. Hsi Tang, claimed in a book published in 1980 that this technique may treat a variety of illnesses, from straightforward conditions to more complex ones. Additionally, urine enhances physical appearance by making the face smooth and bright.
4	Japan	Patients with cancer and chronic illnesses are treated at Nakau Hospital and Sado Surgi Call Clinic using urine as the primary medication, which is occasionally complemented with conventional drugs.
5	Europe	Since four thousand years ago, particularly among individuals or tribes who are still in touch with environment, Europe and America. This urine is used as therapy or medication in a straightforward, conventional manner that is closely tied to the values held by the local populace.
6	North America	Gipsy and Eskimo people utilize pee as medication, and Eskimo women frequently use urine as shampoo because, in their opinion, the substance enhances the beauty and sheen of hair. Additionally, they consider periodic body and soul purification to be a benefit of using urine as a therapeutic.
7	German	An antique text that was published in 1734 has been discovered in Germany. The title of the manuscript is HeylsameDreckkaApotheke. All kinds of disorders can benefit greatly from the use of urine. Both exterior and oral applications are possible for urine. Used urine that has been converted into a powder for external usage using dried and degraded urine (urine that has been stored for a day and has undergone fermentation).
8	United States of America	Dr. Stanislav R. Burzynski, M.D., Ph.D., a specialist in urine He is the director of the Burzynski Research Institute in Houston, Texas, which has been doing research since 1960 and discovered antineoplastons, which are compounds that fight cancer, in the early 1970s.
9	Scotland	The earliest Druids had to occasionally enter a trance state in order to perform their rituals in the Celtic culture of the Druids. They take hallucinogenic magic mushrooms in order to accomplish this. They advise young people to eat mushrooms to prevent this so that the poison can be removed by their hearts. Additionally, the urine is used to eliminate chemicals that live in the blood and create hallucinations. The eldest Druids then drank the urine, which allowed them to fall asleep without danger.

Since there are no paperwork or historical records about this treatment, the history of using pee as therapy in Indonesia has only been passed down orally. As a result, the number of Indonesian patients receiving treatment through urine therapy is still quite low, and the process of transformation from one generation to the next takes place in stages. natural. This is demonstrable by the fact that the Islamic teachings, which are upheld by the majority of Indonesians, expressly forbid eating urine, which is seen as najis. Dr. Albert N. Hutapea claims that while urine produced by a healthy body is sterile and can be utilized as an anti-septic fluid in emergency conditions, it is also easily contaminated with bacteria shortly after leaving the body.

Based on the smart book on urine therapy (Yenti, 2020), The benefits of urine are endless (Souhaila et al, 2013), based on findings from urinopathic activists' research into the effects of auto pee therapy, including elements in urine that have medicinal value: 1. Utilizing and recycling nutrients 2. Hormone reabsorption 3. Enzyme reabsorption 4. Urea reabsorption 5. Immune consequences 6. Salt treatment 7. Urine-related consequences 8. Theorem of transmutation (Yenti, 2020; Hessvik & Llorente, 2018; Van Niel et al., 2006).

Potential of Urine Samples as Biomarkers of Cancer

One of the most clinically proteomically appealing biofluids has been urine. Urine has several benefits for determining biomarkers that are diagnostic and prognostic when compared to other clinical biological specimens (Martínez-Fernández et al., 2016). It is extremely collectible, non-intrusive, and healthy for people's bodies. Compared to other biofluids, urine can be produced in huge volumes and does not undergo considerable proteolytic degradation (MacKintosh et al., 2016). Additionally, compared to serum or plasma, urine has a less complicated composition, which minimizes interference during isolation and makes it easier to assess novel biomarkers (Wu et al., 2017).

According to Martignano et al., (2017), there are numerous components in entire urine that can be utilized as biomarkers to determine the prevalence of prostate cancer. During centrifugation, urine can separate into 223 layers, including supernatant and sediment (pellet). While the pee sediment comprised normal prostate cells, bladder cells, lymphocytes, and prostate cancer cells, the urine supernatant contained exosomes and cell-free nucleic acid. Proteins, enzymes, RNA, DNA, mRNA, miRNA, and other substances make up exosomes. They represent the origin of the cell (specific) and are related to the state of the cell at that moment (Hessels & Schalken, 2013). For PCa, urinary exosomes serve as a source of noninvasive biomarkers (Sarko & McKinney, 2017).

According to the study's findings, RNA, which has the potential to be a biomarker of many diseases, particularly cancer, was identified in the urine sample. This demonstrates that a urine sample has the potential to serve as a possible non-invasive disease biomarker.

The Islamic View on the Use of Urine Samples

All fiqh scholars concur that human excrement and urine constitute najis, with the exception of boys whose mothers exclusively breastfeed them. There are conflicting views on the subject of animal urine. Syafi'i and Abu Hanifa claim that the rule of the flesh governs how urine and excrement behave. The animal waste and pee are holy if the meat is halal to consume. The same holds true for feces and urine if eating meat is prohibited.

The reason for this difference of opinion is that different scholars have different ideas about whether it is permissible to pray in a goat pen and whether it is permissible for arraniyyin to use camel urine as medicine, both of which imply that the law of urine and animal excrement depends on the meat. In contrast, those who declare najis base their position on a hadith from the time of the Prophet Muhammad that forbids praying in a stable for camels. Hanafi continued by saying that a piece of property must be impure if it is larger than a dirham; else, it can be excused.

Since eating human flesh is prohibited, it is obvious from some of the opinions above that academics concur that human pee is najis. Human faeces and urine are innately repulsive, so if they come into contact with clothing or objects used for eating, drinking, or worshiping, they must be cleaned. This is even further confirmation.

The legal status of urine as najis is confirmed by the hadith of the Prophet Muhammad narrated by Muslim and Anas bin Malik: Anas bin Malik related that a Bedouin was standing next to the mosque and urinating there, so the people there shouted at him, then the Messenger of Allah said, "Leave him alone", When the Bedouin had left the Messenger of Allah ordered to flush the urine with a bucket of water to keep it clean. (HR Muslim).

In another hadith, the Prophet gave the directive to wash one's body after urinating since failing to do so could result in receiving the penalty of the grave. "In fact, two people in the graves are being punished and both are not being punished because of a major sin, while one of them walks while gossiping and others never clean their bodies after urinating," the Prophet of Allah (SAW) remarked as he passed over two graves once, according to Sulaiman al-A'masi (H.R Muslim.) The hadith that Ibn Abbas narrated is considered to be an authentic hadith.

In terms of pronunciation, the word **انجِل** includes the type name and literally includes all types of urine, and includes feces, which come from humans, then Ibn Taimiyah describes the meaning of the word **انجِل** in the hadith. Translation: 1. Since both human pee and excrement are disgusting and filthy, they are both unclean. 2. The advantages of food for the body allow us to see the boundary that separates filthy and clean in the human body. Food that is a component of the body is clean, however food that is not a component of the body becomes trash that is unclean for the body. And everything that comes out of the bottom

(qubul and anus) is called najis, including feces, urine, semen, mazi, and wadi. While what comes out of the top is pure: tears, saliva, and others.

In addition to being viewed as useless, urine is also categorized as Alkhabais, or things that are najis, along with other items that emerge from the human body and are deemed najis, such as blood, human excrement, mazi, and wadi. The body, clothing, or other items must be cleaned of odors and the color removed if urine or another najis object comes in contact with them. Even though urine was not originally an najis object, it becomes filthy when combined with other objects since urine is seen as being najis. This is clarified in the Prophet SAW's hadith that forbids urinating in still water and purifies with it, according to the hadith reported by Muslim from Abu Hurairah: The source is Abu Hurairah. Never urinate in still water (water that is not flowing) and then wash with it, the prophet SAW advised (HR Muslim).

using pee as a medication or therapeutic tool. This is nothing new in Islam, as the Prophet SAW authorized the Arraniyyin's use of camel urine as medicine. The hadith that al-Bukhari reported makes this clear.

According to Anas, may Allah be pleased with him, a group of individuals in Medina had lung sickness. As a result, the Messenger of Allah gave the command to check their camels and tell them to consume camel milk and urine until their bodies were healthy. The aforementioned does not imply that his general unclean state is lifted. Because the meaning of the aforementioned hadith refers to camel urine, an animal whose meat can be consumed and whose urine is subject to the same laws as its flesh. The permission given by the Prophet Muhammad to Umm Salamah to do tawaf while riding a camel, which naturally cannot be prevented if its droppings touch the mosque, further supports the aforementioned.

The hadith that Abu Daud also recounted forbids receiving medical care from dirty people. The clause is reviewed once more with instances of the things that fit the definition of al khabais, such as the Prophet forbidding the use of alcohol as medicine: When the Prophet was questioned about alcohol by Tharik bin Suwaid, he prohibited it. When Tharik claimed that we were given khamr treatment, the Prophet of Allah retorted, "Khamr is not a cure; it is a disease." HR at-Turmizi

The Hadith advises people to keep fighting it since, no matter the condition, a remedy must exist; all it takes is for people to make an effort to treat it. Furthermore, conducting business is entrusted to humans, but it cannot be separated from something that is against the law. Table 3 lists several Qur'anic verses and hadiths that speak to the regulation of utilizing urine samples as a disease biomarker.

Table 3. lists verses from the Qur'an and hadiths that pertain to the law concerning the use of urine samples as biomarkers.

No	Referential Style	Referential Sources	Meaning
1	Surat Al-Baqarah: 173	Al-Qur'an	Allah forbids you from eating only pork, carrion, blood, and animals that are slaughtered under names other than His. However, if someone is made to eat something they don't want to and doesn't break the law, they are not guilty of sin. Undoubtedly, Allah is Merciful and Forgiving.
2	Surat Al-An'am: 145	Al-Qur'an	Say: "I did not find in the revelation that was revealed to me, anything that is forbidden for those who desire to consume it, save if the food is carrion, or blood that pours or the flesh of pigs - since really these are unclean - or animals murdered in the name of other than Allah. If someone is under duress and does not desire to be there or violate the law, then your Lord is Forgiving and Most Merciful."
3	Surat Annahl: 115	Al-Qur'an	The only foods that Allah bans you from eating are carrion, blood, pork, and anything else that is killed in the name other than Allah; nevertheless, if someone is forced to consume these foods without violating His laws or persecuting others, Allah is Forgiving and Most Merciful.
4	Hadist Rasulullah SAW	HR.Bukhari	the r.a. Abi Hurairah According to the Prophet (saw), Allah will not send a disease unless He also sends a remedy.
5	Hadist Rasulullah SAW	HR. Ahmad, Muslim, Abu Daud, and Turmidzi in Sahih	According to Wail bin Hajr, when the Prophet SAW and Tariq bin Suwaid al-Ju'f were questioned regarding alcohol, the Prophet SAW forbidden it. The questioner then inquired, "What if using it exclusively for medicine?" "Khamr is not a treatment, but a disease," he declared.
6	Hadist Rasulullah SAW	HR. Abu Daud	From Abi Darda ' , the Prophet. Said: "Verily Allah has sent down disease and medicine and has created for you every disease there is a cure. So seek treatment and do not seek treatment with what is unlawful.
7	Hadist Rasulullah SAW	HR. Bukhari	Verily, Allah has not created a cure for what is forbidden to you
8	Kaidah fiqh	Qawaidh fihiyyah	Adh-dharuratu tubiihul mahzhuraat, which means an emergency allows something that is prohibited.

The Republic of Indonesia Health Law No. 23 of 1992, which states: 1. Pharmaceutical preparations in the form of medicinal drugs must meet the requirements of the Indonesian pharmacopoeia or other standard books, is the only verse or hadith that specifically mentions urine as a sample of a biomarker of a disease. 2. Both medical devices and pharmaceutical preparations in the form of conventional medications or cosmetics must adhere to the established criteria or regulations. According to the article's explanation, traditional medicine is a form of non-medical treatment whose advantages and safety can be taken into account to ensure that the community is not harmed. Another article explains the necessity

of considering ethical, moral, religious, and decency standards when developing healthcare facilities.

Because the benefits of using urine as medicine cannot be established and supported by evidence, it is evident from the law's explanation above that urine therapy is not an approved type of treatment. Given that urine is the bodily waste product of metabolism, it is even feared that this will be harmful to public health. And if it has to do with the specifications for building health facilities, what is stated in the Act is obviously against both legal and religious standards, given that najis is categorically forbidden to be consumed in Islamic teachings and that urine is a dirty object that is categorized as najis.

Islam, in theory, opposes treating anybody or anything with something that is obviously prohibited, hence it strongly advises its followers to pursue therapeutic attempts while remaining within the halal concept. Several hadiths of the Prophet that forbid treatment with illegal substances, such as the Prophet's prohibition against the use of alcohol as medicine, serve as illustrations of this. According to Sahih al-Bukhari, Allah has not forbade healing.

Rasulullah SAW quoted ibn Mas'ud as saying, "Truly, Allah did not create healing by something that is prohibited." (According to al-Bukhari) According to Ibn Al-arabi: The ban of treating with carrion is what the aforementioned hadith means because halal food is still available in its place. Muslims must avoid the object of the prohibition at all means and seek medical attention.

It's also important to keep in mind that the prohibition against consuming food that falls under the al-khabais category in Surah al-A'raf verse 157 extends to items that are thought to be medicines. In other words, the application of halal and good food requirements are absolutely applicable to drug consumption. like human urine, which is classified as al-khabais and therefore prohibited for eating, it is regarded by many scholars as najis. Therefore, it is evident that using urine as a therapeutic medicine inside is prohibited but using it externally is legal given that the author has not discovered any evidence to support the former. nonetheless it must be cleansed from the body, especially when it comes to worship.

In this study, the use of urine was restricted to a sample for disease detection biomarkers, where urine was taken from the patient and used right away in laboratory tests, preventing urine from being directly used in patients either orally or by smearing the outside of the patient's body, which the author believes can strengthen his prohibition.

Conclusion

Based on the findings and subsequent discussion, it was determined that urine has the potential to be used as a biomarker to identify cancer. Next, it was determined that the use of urine samples as a biomarker for cancer detection is legal because urine is only used

for research purposes and not for internal or external purposes. The use of urine samples for cancer detection is not explicitly permitted by Islamic law, and laboratory testing are used instead. According to Islamic law, the use of urine samples as biomarkers for illness diagnosis is acceptable because the urine is only collected from patients and then subjected to laboratory analysis, preventing urine from coming into touch with them either orally or through injection.

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