

# The Islamic Use of White Musk for Cleansing to Eliminate the Vaginal Pathogenic Bacteria, KSA

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## Abstract

From an "Islam Sunnah", it is advised to use musk for cleanse the vaginal area for women to eliminate the vaginal pathogenic microbes and gain a fragrant smell. An objective was to prove that musk has functions to cleanse the vagina and eliminate the vaginal pathogenic bacteria. The Methodology were Buying original Musk, Vaginal pathogenic bacteria isolates, and testing. The results showed the White Musk were affected on all vaginal pathogenic bacteria in descending grade of bacterial eliminations. It was found that the Grade A was *Streptococcus agalactiae* (*S. agalactiae*). That was eliminated, and completely affected by quarter1 (Q1) after 1st overnight, and by Q2 did not grow at all. The Total Means were 0.002 and 7.0 were for Spectrophotometry reading (SR), and bacterial cell / ml (BC/ml). While the lower affection of White Musk was on *Pseudomonas aeruginosa* (*P. aeruginosa*) was in grade G through the Total Means was non eliminated. The Total Means were 0.027 and 91.8 were for SR, and BC/ml. It was found that the Grade B, C, D, E, and F, were for *Staphylococcus aureus* (*S. aureus*), *Neisseria gonorrhoeae* (*N. gonorrhoeae*), *Enterococcus faecalis* (*E. faecalis*), *Escherichia coli* (*E. coli*), and *Klebsiella pneumonia* (*K. pneumonia*). That was concluded the White Musk was considered one of the materials that cleanse the vagina of odor and vaginal pathogenic bacteria. That was recommended to complete the method for different types of the Musk to know the best in performance.

**Key Words:** Islam Sunnah; The White Musk; streptococcus agalactiae (*S. agalactiae*); pseudomonas aeruginosa (*P. aeruginosa*); staphylococcus aureus (*S. aureus*); neisseria gonorrhoeae (*N. gonorrhoeae*); enterococcus faecalis (*E. faecalis*); escherichia coli (*E. coli*); klebsiella pneumonia (*K. pneumonia*)

## 1. Literature Review

From an "Islam Sunnah", it is advised to use musk for cleanse the vaginal area for women to eliminate the vaginal pathogenic microbes and gain a fragrant smell. The different attentions of White Musk have an real role in constraining some of the microorganisms of this vaginal pathogen, and it had assumed a optimistic conflicting result, it be used as a usual antibiotic decreases lateral belongings on females and the environment. The White Musk is used to cleanse the vaginal area for women [1]. The White Musk has been used since ancient times as a medicine and fragrance. Muscone (3-methylcyclopentadecan-one-1) is the active constituent is the cause for the odor and has medicinal possessions. Also, steroids and lipids, paraffin, triglycerides, waxes, muco-pyridine and nitrogenous substances. That are an active substance similar to antibiotic, alkaloids and volatile oils have the ability to stop the growth of many vaginal pathogenic bacteria. It had given a positive opposite result to the pathogenic microbes; it can be used as a natural antibiotic that reduces side effects on females and the environment [2]. The White Musk has an anti-pathogenic bacteria property against vaginal pathogenic bacteria, as it affects the cells in a way White Musk has microbial inhibitory by its composites and metabolic yields as alkaloids, flavonoids,

sterols and antibiotics. It is upset the bacterial cells by raising the permeability of cell membranes leak important substances led to cell death. inhibit the microbes via preventing the synthesis of nucleic acids causing construction of abnormal proteins. Volatile oils in White Musk are the reason for its bacterial cell inhibitory effect [3]. The White Musk eliminate vaginal pathogenic bacteria by the essential oils were used against vaginal pathogenic bacteria were *Staphylococcus aureus* (*S. aureus*), *Klebsiella pneumonia* (*K. pneumonia*), and *Escherichia coli* (*E. coli*). The essential oil had shown high antibacterial activities against the tested pathogenic bacteria [4]. The White Musk has an anti-bacterial effect on the growth of vaginal pathogenic bacteria that causes vaginitis. It stopped the growth of *S. aureus*, would be more effective in inhibiting the growth of these microbes and achieve the reference of the "Prophet Muhammad (PBUH)" for women to treat the vagina with the white musk, as substitutes to antibiotics, and reduce their negative effects on woman health [3]. An inspects of the antagonistic effect of anti-bacterial, White Musk on some pathogenic bacteria. The bacterial strains *S. aureus*, was tested by disk diffusion method, the White Musk had inhibitory effects on the pathogenic bacterial growth [5]. The

White Musk had bactericidal and bacteriostatic effect was against *S. aureus* and *Pseudomonas aeruginosa* (*P. aeruginosa*) [6]. The White Musk were tested pathogens were *S. aureus*, *K. pneumonia*, *E. coli*, *P. aeruginosa*, *Streptococcus agalactiae* (*S. agalactiae*), and *Enterococcus faecalis* (*E. faecalis*) were tested by disk diffusion way. minutest inhibitory concentration (MIC) and minutest bactericidal concentration (MBC) by the time-kill method recommendation by CLSI. The White Musk had killed all tested pathogenic bacteria. The MIC and MBC values were 2%, (v/v). There were changes detected of bacterial colony morphology for *S. aureus*, *S. agalactiae*, *P. aeruginosa* and *K. pneumonia*, that was representative the White Musk had bacterial cell membrane effects. So, the White Musk has a bacteriostatic and bactericidal effects on pathogenic bacteria [3]. An effect of White Musk in concentrations 0, 25, 50, 75 and 100% on *S. aureus*, *Neisseria gonorrhoeae* (*N. gonorrhoeae*), *E. coli*, and *P. aeruginosa*. That was indicated the White Musk had bactericidal inhibitory belongings on the growing of pathogens [7]. An importance was from an "Islam Sunnah" it was advised to use the White Musk to cleanse the vaginal area for women. Therefore, it was important to use the musk for cleansing, eliminating vaginal pathogenic bacteria, and giving the vagina a fragrant scent. An objective was to prove that musk has functions to cleanse the vagina and eliminate the vaginal pathogenic bacteria. The methodology was the musk worked on an agent for cleansing and eliminating pathogenic bacteria that infect the vagina through a practical experiment. Which was involved exposing vaginal pathogenic bacteria to the musk and monitoring the extent to which musk eliminated bacteria to prove the ability of the musk to eliminate vaginal pathogenic bacteria.

## 2. Methodology

### Buying original Musk:

- It was collected from the original perfume shop in the market, that was asked about the Original White Musk, then was purchased.
- The Original White Musk was considered as crude 100% material. The dilution was done by freshly dissolved the crude in 10% dimethyl

sulfoxide (DMSO; BDH, UK) in the sterile MHB to obtain (one, two, and three) quarters concentrations for the test [8].

### Vaginal pathogenic bacteria isolates:

- They were collected from the private laboratory that were isolated from women's vaginal infections.
- They were included *S. aureus*, *P. aeruginosa*, *K. pneumonia*, *E. coli*, *S. agalactiae*, *E. faecalis*, and *N. gonorrhoeae*.
- They were grown on the Mueller-Hinton Agar (MHA); (Oxoid, UK), was incubated at 37°C for overnight. The pure colonies were transferred to the Mueller-Hinton Broth (MHB); (Oxoid, UK), was incubated at 37°C for ten to twelve hours for proper growth [9].

### Testing:

- The sterile Capped Weizmann-man Tubes were prepared. Three tubes were prepared for each sample for each musk dilution.
- A quarter ml of diluted musk was added, then a quarter ml of mixed bacterial broth soup, then the mixing process was done on the Vibrating Device.
- The tubes were placed in the incubator at 37°C. The tubes were reviewed every 12 hours at the following times (1, and 2) overnights.
- Verify the elimination of vaginal pathogenic bacteria after exposure to the musk, the plastic culture needle was taken and cultured on the Mueller-Hinton Broth (MHB); (Oxoid, UK), was incubation at 37°C for 4-6 hours.
- The results of bacterial growth were determined by the turbidity degree and the bacterial cell / ml (BC/ml) were related to MacFarland Standard. The turbidity values were measured by Spectrophotometer Device at 250 nm.
- The results means were entered into the Excel, they were outputted in the form of tables for easy verification of the results [10].

## 3. Results and Discussion

	Bacterial names	<i>S. agalactiae</i>		<i>E. faecalis</i>		<i>S. aureus</i>		<i>E. coli</i>		<i>K. pneumonia</i>		<i>N. gonorrhoeae</i>		<i>P. aeruginosa</i>		
		1	2	1	2	1	2	1	2	1	2	1	2	1	2	
	Incubation time	Overnight *No.														
*QC	*Q1	*TD	+	-	+++	++	++	+	+++	++	+++	++	++	+	++++	+++
		*SR	0.012	0.0	0.032	0.021	0.028	0.016	0.039	0.024	0.031	0.023	0.021	0.012	0.042	0.030
		*BC/ml	42	0.0	155	112	101	52	153	114	158	118	97	54	170	133
	*Q2	*TD	-	-	++	+	+	-	++	+	++	+	+	-	+++	++
		*SR	0.0	0.0	0.023	0.012	0.013	0.0	0.021	0.016	0.026	0.017	0.014	0.0	0.033	0.021
		*BC/ml	0	0	112	47	41	0	114	53	120	56	49	0	125	88
	*Q3	*TD	-	-	+	-	-	-	+	-	+	-	-	-	++	+
		*SR	0.0	0.0	0.011	0.0	0.0	0.0	0.012	0.0	0.019	0.0	0.0	0.0	0.020	0.014
		*BC/ml	0	0	58	0	0	0	68	0	66	0	0	0	90	48
Partial Means	(SR)	0.004	0.00	0.022	0.011	0.014	0.005	0.024	0.013	0.025	0.013	0.012	0.004	0.032	0.022	
	(BC/ml)	14.0	0.0	108.3	53.0	47.3	17.3	110.6	55.6	114.6	58.0	48.6	18.0	128.3	55.3	
Total Means	(SR)	0.02		0.017		0.010		0.019		0.019		0.008		0.027		
	(BC/ml)	7.0		80.7		32.3		83.1		86.3		33.3		91.8		
Grade		A		D		B		E		F		C		G		

\*No.: Number, \*QC: Quarter concentration, \*TD: Turbidity degree, \*SR: Spectrophotometer reading, \*BC/ml: Bacterial cell/ml

**Table 1:** The results mean of the vaginal pathogenic bacteria growth after contact to the White Musk

Table (1) obtained the results mean of the vaginal pathogenic bacteria growth after contact to the White Musk. That was under the effects of the White Musk contents. The results mean find evidence to confirm the extent to the White Musk is using to cleanse and eliminate vaginal pathogenic bacteria because of its components characters are capable of destroying and bactericidal effects vaginal pathogenic bacteria [1-7, 11]. The White Musk were affected on all vaginal pathogenic bacteria in descending grade of bacterial eliminations. Through the partial and total average, it was found that the Grade A was *S. agalactiae*. That was eliminated, and completely

affected by Q1 after 1<sup>st</sup> overnight, and by Q2 did not grow at all. The Total Means were 0.002 and 7.0 were for SR, and BC/ml. That was happened by the White Musk components and their effect on the vaginal pathogenic bacteria. While the lower affection of White Musk was on *P. aeruginosa* was in grade G through the Total Means was non eliminated. The Total Means were 0.027 and 91.8 were for SR, and BC/ml. That was happened, so these bacteria need more time of contact and high concentration of the White Musk. Through the total average in the Total Means, it was found that the Grade B, C, D, E, and F, were for *S. aureus*, *N. gonorrhoeae*, *E. faecalis*, *E.*

*coli*, and *K. pneumonia* [1-7, 12]. It was clear from the results mean that the effects were differed according to the type of bacteria, resistance to musk, and the presence of some virulence among the bacteria. From the above, exposure to the White Musk be increased by increasing the concentration and time contact to accelerate the bacterial elimination of all vaginal pathogenic bacteria in short times [1-7, 13]. Mostly all of the vaginal pathogenic bacteria under experiment were eliminated within approximately 24 hours, fulfills the "Prophetic Sunnah" of using the White Musk for cleansing, removing vaginal pathogenic bacteria, and making the place smell good. This was to preserve the women's reproductive system by using the natural materials "Prophetic Sunnah" recommended [1-7, 14].

#### 4. Conclusion:

That was concluded the White Musk was considered one of the materials that cleanse the vagina of odor and vaginal pathogenic bacteria.

#### 5. Recommendations:

That was recommended to complete the method for different types of the Musk and to know the most important and best in performance.

#### 6. Acknowledgments:

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