Pilgrims attitude and believes towards medications use during Hajj 2013

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Abstract

Millions of Muslims are visiting Makkah, Saudi Arabia, on yearly basis to perform religious pilgrimage known as Hajj. They come from various nations and belong to many ethnic subgroups. Most of them bring their medications with them from their countries to use them accordingly. Inappropriate use and handling of their drugs can result in exacerbation of their disorders and can lead to severe outcomes. To date, there is no study exploring pilgrim's attitude regarding quality use of medicines during Hajj. This study seeks to explore current knowledge and attitudes of pilgrims from South Asian nationalities about medications use and handling during Hajj. This cross-sectional study was carried out by South Asian pilgrims attending outpatient settings of respective Hajj mission hospitals and emergency settings around Masjid Al Haram, Makkah, Saudi Arabia. Among total of 601 respondents 55 % were females and 45 % were males. Majority of interviewees (63 %) were from Pakistan, India (18%), and Bangladesh (12 %) respectively. Majority of them visited emergency care for acute hypertension (49 %), Ischemic heart diseases (38 %), uncontrolled diabetes Mellitus (34 %) and asthma (11 %). Cough was the most common symptom among patients (77 %). We found that the majority of the patients (97 %) received their medications from Hajj mission due to the ease in a communication process. Only 14 % of the respondents were satisfied with the community pharmacy services and claimed language barrier in communication. Interestingly 87 % of the pilgrims claimed that they share medications during the Hajj days. This can serve as baseline data and provide further insight into planning and development of pilgrim's health education.

Introduction :

Millions of Muslims used to visit Makkah, Saudi Arabia, on yearly basis to perform religious pilgrimage known as the Hajj(1). They come from various nations and belong to many ethnic subgroups(2, 3). Most of them bring their medications with them from their countries and or obtain medications from surrounding medical centres or pharmacies accordingly(4, 5). Inappropriate use and handling of their drugs can result in exacerbation of their disorders and can lead to severe outcomes. There are few studies explaining poor level of knowledge among pilgrims towards common health conditions and their prevention measures which necessitate to study their attitude towards medication use for common illnesses during Hajj and pilgrimage(6-8).Based on assumption of language variation and different knowledge level of pilgrims, there is strong need to have patients information leaflets in different languages to guide them about judicial use of medications during their stay in Hajj (9).

To date, there is no study exploring pilgrim's attitude regarding quality use medicines during Hajj. Therefore, we studied common medication use among pilgrims and their common source during Hajj. In addition, pilgrims' satisfaction level towards pharmaceutical services offered by hajj mission hospitals, Ministry of Health medical centres and community pharmacies nearby pilgrims accommodations.

Research aims:

This study aims to explore current knowledge and attitudes of pilgrims from South Asian nationalities about medications use and handling during Hajj.

Research Methodology:

Study Design & Settings: In order to formally investigate this issue, we conducted a cross-sectional study of South Asian origin pilgrims during the 2013 Hajj season. Pilgrims were asked to complete a structured anonymous questionnaire on their views towards antibiotics use. South Asian pilgrims attending outpatient settings of Pakistani Hajj mission hospital and emergency settings around the Grand Mosque (Masjid Al Haram) of Makkah Saudi Arabia.

Sample Size: Based on the 95% confidence interval, a response distribution of 50% and a 5% margin of error, 601 participants were targeted for the study based on calculation by Roasoft ® sample size calculator (10). Patients were approached conveniently to be included in the current study.

Ethical approval: This study was initially approved by Ajyad Emergency Hospital. Later it was approved by Directorate General Health of Makkah Region by approval number M47/300/32512. In addition, study was approved by Pakistan Hajj Mission Hospital, Al – Azziziya Main office to access patients in Pakistan Hajj mission hospital.

Results and discussion:

A total of N=601 responses were collected for quality use of medications by pilgrims during Hajj. The majority of the respondents (55.4%) were females. Majority of the respondents (28.6%) were from age group 45-54 Years, followed by (24.5 %) of age group 55-64 Years. Among the participated respondents, Pakistani were highest (63.3%), followed by Indian (18.6%) and Bengali (12.4%).Most of the respondent (34.3%) education status was secondary school and (28.1%) primary school. Urdu language was the most proficient language among the respondents with 81.2% had full command while 10.3% reported little command, while English was the second proficient language with (12.5%) full command and (14.8%) little command on English. However, other languages reported had no marked proficiency like Bengali, Afghani and Arabic. About (50.1%) reported had accompanied with family to perform Hajj and about economic status while brought were SR 2001 – 3000 (535 - 802 $) among (30.8%); shown in table 1 .

The pattern of medicine use results by chi-square test, the results indicates that respondents (54.9%) were currently using medication for chronic diseases and shows statistically significant association between age and education status. About general use of medicine analgesics were highly consumed (88.4%) and have statistically significant association with age and education status, however antihypertensive drugs were second most used medicine (48.9%) having significant association age and education status. Regarding specific medication use Azithromycin is mostly use (76.7%) by respondents showing statistically significant association with age and education status, while β-blockers, warfarin and Primolut N has showed significant association with age, gender and education status shown in table 3 .

The access to medicine results by chi-square test, the results indicate that respondents first point in order to consult for health problem appeared to be statistically associated with gender and educational status respectively. This showed that there was an association of gender as well as education status with consulting nearby medical center, consulting private clinic nearby participant's accommodation, consulting pharmacist at pharmacy outlet,

consulting a friend in group to take his/her medications, and self-medication. The results also revealed that participants usually obtained medicines from private medical centers and it appeared to be statistically associated with educational status but not with gender. In the same way, results revealed that apart from private medical centers, there was no statistically significant association of other places, from where medicines could be bought with educational status or gender respectively. Over all, the results showed that there were significant differences by gender and education status, respectively, when the participants endorsed other places to show how participants usually obtained medicines shown in table 4.

Evaluation of patient's perception and awareness on the use of medicines toward Perception towards medicine labelling results reveals that (16.6%) reported of having adequate information given on label having statistically significant association with gender and education status respectively and (54.2%) read information on label before using medicine. Trouble reading labels for medicines supplied from government hospitals, medical centers of my country Hajj mission, private medical centers/clinics and community pharmacy reported high (53.6%) in government hospital having significant association with education status, however; community pharmacy reported low (22%) and having statistically significant with gender and education status. Regarding satisfied with the information written on the labels given by government hospitals, medical centers of my country Hajj mission, private medical centers/clinics and community pharmacy; (41.8%) responded having satisfied with the information written on the labels from government hospital. Awareness toward appropriate

use of medicines, (64.2%) responded about aware that all medicines have expiry date. About the correct way of medicines storage (38.6%) respond of knowing it shown in table 5. The linear regression results revealed that gender have no significant association having (OR 0.025 CI -0.078 - 0.147) understanding the proper use of your medicines in term of dose, frequency, method of administration, side effect monitoring and interaction while education level also have no significant association having (OR -0.277 CI -0.101–0.002) shown in table 5 .

The assessment of medicine information resources results by chi-square test, the results indicate that respondent's first person to consult for medicine information appeared to be statistically associated with education status but not gender. This also showed that there was an association of education status with doctor, pharmacist, nurse, medical assistant,

friend in group, family member shown in table 6. Responses regarding easy to obtain medicine information from government hospital doctor (76.9%) responded to it, while (73.4%) responded to country Hajj mission doctors/medical staff for easy to obtain medicine information and is statistically associated with education level shown in table6 .

About medicines information obtained from media/printed materials (magazines, newspapers), internet, common information and entertainment channels (TV, radio), modern healthcare professionals (doctors, pharmacists, nurses), traditional and complimentary practitioners (Hakim, etc.), friends, family and neighbors. About (47.4%) reported of never obtained medicine information from media/printed materials (magazines, newspapers), similarly about (48.8%) never form common information and entertainment channels (TV, radio). The linear regression analysis revealed that gender was not associated while education status was associated with Media / Printed materials like magazines and newspapers (OR -0.081 CI -0.561– -0.044) and common information and entertainment channels like TV, radio (OR 0.081 CI 0.003–0.559) shown in table 7.

Summary:

This can serve as baseline data and provide further insight into planning and development of pilgrim's health education

Recommendations:

This study has highlighted the substantial misuse of medications in pilgrims of South Asian-origin. The Saudi authorities should consider issuing directives to relevant embassies with a view to discouraging pilgrims from bringing their own supplies of medications. Furthermore, the leaders of pilgrim caravans should be trained to educate the pilgrims to seek appropriate medical care in the context of suspected infection and self-care and to avoid self-directed use of all medications.

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Table 1: Demographic characteristic of pilgrims N=601

Demographics	**N (%)**
Gender	
Male	268 (44.6)
Female	333 (55.4)
Age	
18-24 Years	38 (6.3)
25-34 Years	57 (9.5)
35-44 Years	104 (17.3)
45-54 Years	172 (28.6)
55-64 Years	147 (24.5)
>65 Years	83 (13.8)
Nationality	
Pakistani	381 (63.3)
Indian	112 (18.6)
Bengali	75 (12.4)
Afghani	4 (0.7)
Egyptian	4 (0.7)
Indonesian	3 (0.4)
Nigerian	2 (0.3)
UAE	2 (0.3)
Morocon	2 (0.3)
Chinese	2 (0.3)
Malaysian	1 (0.2)
Saudi	1 (0.2)
Others	12 (2.0)
Education level	

Primary school	169 (28.1)
Secondary school	206 (34.3)
College/University	107 (17.8)
No formal education	119 (19.8)
Language proficiency	
Urdu	
Full command	488 (81.2)
Little command	62 (10.3)
English	
Full command	75 (12.5)
Little command	89 (14.8)
Bengali	
Full command	65 (10.5)
Little command	5 (0.8)
Arabic	
Full command	15 (2.5)
Little command	13 (2.2)
Afghani	
Full command	29 (4.8)
Little command	9 (1.5)
Living status (Coming along) for Hajj	
Alone	33 (5.5)
With family	301 (50.1)
With group	267 (44.4)
Economic Status (Money brings for Hajj)	
SR 1000 & Below (260 $ & Below)	25 (4.2)
SR 1001 – SR 2000 (267 $ - 534 $)	172 (28.6)
SR 2001 – SR 3000 (535 $ - 802 $)	185 (30.8)
SR 3001 – SR 4000 (803 $ - 1069 $)	119 (19.8)
SR 4001 & Above (1069 $ - above)	100 (16.6)

Table 2: Pattern of diseases by respondents

Disease	**N (%)**
Hypertension	291 (48.4)
Heart diseases (MI, Angina etc.)	242 (40.2)
Hyperlipidemia	127 (12.1)
Diabetes Mellitus	202 (33.6)
Respiratory diseases (Asthma, COPD)	84 (14)
Thyroid disorder	7 (1.2)
Peptic ulcer	21 (3.5)
Hepatitis B	8 (1.3)
HIV/AIDS	0 (0)
Cough	461 (76.7)
Diarrhea (Before Arrival)	32 (5.3)
Nausea & Vomiting	47 (7.8)
Diarrhea (After Arrival)	133 (22.1)
Kidney disease/problems	3 (0.5)
Fever	33 (5.5)
Shoulder pain	2 (0.3)
Stomach pain	2 (0.3)
Arthritis surgery	2 (0.3)
Chest infection	2 (0.3)
Throat infection	2 (0.3)
Fracture in hand	2 (0.3)
Gas problem	2 (0.3)

Pulmonary embolism	2 (0.3)
Uric acid	2 (0.3)

** Chi-square test, ** Fisher exact Test, † statistically significant p<0.05*

Table 3: Pattern of medicine use responses by respondents

Statement	**N (%)**	**Age**	**Gender** (χ^2)	**Education level** (χ^2)
Currently taking any medicine for chronic diseases	330 (54.9)	<0.001*†	0.889*	<0.001*†
Duration for taking the medicines	1–220 Months			
General use of medicines				
Antihypertensive medications	294 (48.9)	<0.001*†	0.402*	<0.001*†
Anti - diabetic medications	238 (39.6)	<0.001*†	0.304*	<0.001*†
Anti-infective drugs	279 (46.4)	0.183*	<0.001*†	<0.001*†
Hormonal therapy	51 (8.5)	0.425*	0.419*	<0.001*†
Vitamins	196 (32.6)	0.080*	0.141*	<0.001*†
Herbal drugs	256 (42.6)	<0.001*†	0.235*	<0.001*†
Analgesics	531 (88.4)	0.160*	0.046*†	<0.001*†
Blood Thinning Agents	245 (40.8)	<0.001*†	0.478*	<0.001*†
Specific Medication Use				
Azithromycin	461 (76.7)	0.005*†	0.063*	<0.001*†
β. blocker	207 (34.4)	<0.001*†	0.005*†	<0.001*†
Warfarin	79 (13.1)	<0.001*†	0.025*†	<0.001*†
Diuretics	30 (5)	0.026*†	0.099*	0.114*
Primolut N	55 (9.2)	<0.001*†	<0.001*†	<0.001*†
Others	12 (2)	0.178**	0.428*	0.699**

Table 4: Access to medicine responses

Statement	**N (%)**	**Gender** (χ^2)	**Educational status** (χ^2)
First point to consult for health Problem			
Consult nearby medical center	375 (62.4)	<0.001*†	<0.001*†
Consult private clinic nearby my accommodation	45 (7.3)		
Consult pharmacist at pharmacy outlet	50 (8.3)		
Consult my friend in group to take his medications	25 (4.2)		
Self-medication	106 (17.6)		
Usually obtain your medicines from			
Governmental Hospitals around Haram and my residence	564 (31.6)	0.060*	0.720*
Medical center of my country hajj mission	563 (31.5)	0.3038	0.061*
Private medical centers	394 (22.1)	0.051*	0.014*†

Community pharmacy	109 (6.1)	0.579*	0.193
Grocery shop (Biqala/store)	77 (4.3)	0.743*	0.065
Other	78 (4.3)	0.083**	0.501**

*Medicine obtained responses varies in total N=601, as multiple responses (3 options) have to be selected. *chi-square test used, ** Fisher exact test, † statistically significant p<0.0*

Table 5: Evaluation of patient's perception and awareness on the use of medicines

Statement	**N (%)**	**Gender** (χ^2)	**Education** (χ^2)
Perception towards medicine labelling			
Adequate information given on label	100 (16.6)	0.022 *†	<0.001*†
Read information on label before using medicine	326 (54.2)	0.409*	0.074*
Trouble reading labels for medicines supplied from			
Government hospitals	322 (53.6)	0.912*	<0.001*†
Medical centers of my country Hajj mission	246 (40.9)	0.959*	<0.001*†
Private medical centers/clinics	164 (27.3)	0.114*	<0.001*†
Community pharmacy	132 (22)	0.019*†	<0.001*†
Satisfied with the information written on the labels given by			
Government hospitals	251 (41.8)	0.697*	<0.001*†
Medical centers of my country Hajj mission	221 (36.8)	0.815*	<0.001*†
Private medical centers/clinics	116 (19.3)	0.062*	0.009*†
Community pharmacy	88 (14.6)	0.126*	<0.001*†
Awareness toward appropriate use of medicines			
Medicine name (Active ingredient name/Brand name)	203 (33.8)	0.105*	0.002*†
Aware of the side effects of your medicines	118 (19.6)	0.365*	<0.001*†
Aware that all medicines have expiry date	386 (64.2)	0.380*	<0.001*†
Aware that other medicines/ food that should not been taken together	112 (18.6)	<0.001*†	<0.001*†
Aware that there are some of modern and traditional medicines should not to be taken together	92 (15.3)	0.815*	<0.001*†
Know the correct way of medicines storage	232 (38.6)	0.130*	<0.001*†
Know that all medicines have to keep in specific temperature	72 (12)	0.465*	<0.001*†

Understand the proper use of your medicines in term of dose, frequency, method of administration, side effect monitoring and interaction		**OR**	
		Gender [CI 95%]	**Education [CI 95%]**
Understand	252 (41.9)		
Partially understand	263 (43.8)		
Not understand	86 (14.3)		

	0.025 [-0.078-0.147] **	-0.277 [-0.101-0.002] **

** Chi-square test, ** linear Regression, † statistically significant p<0.05*

Table 7: Medicines information obtained

Statement	Often N (%)	Seldom N (%)	Never N (%)	OR	
				Gender [CI 95%]	Education [CI 95%]
Media / Printed materials (magazines, newspapers)	153 (25.5)	163 (27.1)	285 (47.4)	0.020 [-0.452-0.758]	-0.081* [-0.561- -0.044]
Internet	50 (8.3)	352 (58.6)	199 (33.1)	-0.038 [-0.797-0.289]	0.047 [-0.104-0.396]
Common information and entertainment channels (TV, radio)	145 (24.1)	163 (27.1)	293 (48.8)	-0.064 [-1.085-0.122]	0.081 * [0.003-0.559]
Modern healthcare professionals (doctors, pharmacists, nurses)	119 (19.8)	256 (42.6)	226 (37.6)	0.034 [0.322-0.819]	0.032 [0.159-0.372]
Traditional and complimentary practitioners (Hakim, etc)	122 (20.3)	278 (45.8)	204 (33.9)	0.002 [-0.551-0.572]	0.079 [-0.005-0.512]
Friends, family and neighbors	140 (23.3)	237 (39.4)	224 (37.3)	0.040 [-0.287-0.871]	0.029 [-0.172-0.362]

*Linear Regression, * statistically significant p <0.05*