

Oral Hygiene and Mass Gathering of Iraqi and Non-Iraqi Visitors in Arbaeen; A Random Sample Survey for 3500 Visitor

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ABSTRACT

Arbaeen is one of the largest religious annually event in the world. It is held in several days in Karbala, Iraq with close to 20 million visitors from Iraq and another countries. This study is the first study regarding to the oral hygiene in mass gathering. Out of 4000 visitors selected randomized, 3500 participated in this study. The survey concentrated on Smoking habits, importance of Oral Hygiene to them, their visits to the dentist regularly, and any systemic disease in addition to demographic questions. Results showed that majority of the participants in the study are Iraqi citizens after them are Iranian, while the majority of age groups are between 18-20 years old. Also showed they do not have enough awareness about the relationship between the oral hygiene and systemic disease in addition to that they ignore their Oral hygiene especially in such events. Thus the health service foundations should use the media to bring the attention of people who are participating in mass gathering to look after their oral health.

INTRODUCTION

Every year millions of Muslim visitors from all cities of Iraq and other countries gather at the Holly Shrine of Imam Hussain in Karbala (south of Iraq) like pilgrimage, it is called (Arbaeen). The total number of visitors is between 19 to 22 million entering the city in several days, and close to 3 million of them are foreigners with the majority of Iranian citizens^[1]. Arbaeen is the largest annually pilgrimage in the world in comparing with the visitors of the Hajj event. Most of these millions trek on them foots for 80 Km in a specific secured road that has close to 1 mobile clinic in every Kilometer providing a primary health care in addition to 2 teaching hospitals lied on this road for cases that need medical intervention. Mass gathering is a critical event in such cases that involve a large number of people which affects the global health security^[2].

The present study of the literature suggested that the following conditions are those in which the poor oral hygiene (POH) potentially associated with, Cardiovascular disease, Hyperlipidemia, Obesity, Stroke, Hyperglycemic control in diabetics, renal disease, adverse pregnancy outcomes, Rheumatoid arthritis, Cancer, Dementia^[3-5].

Because of long distance marathon, people pay less attention to their General health and especially on the Oral Hygiene. A group of researchers collaborated together in addition to college of Dentistry of University of Kufa and Nab'a Al-Hayat foundation for Medical Sciences and Health Care (NGO) to put stations on the visitor's road in which to do a random survey from different types of visitors to see their motivation toward Oral Hygiene and the relationship of their Oral hygiene with the systemic disease.

MATERIALS AND METHODS

3500 persons (2000 male and 1500 female) of different ages have voluntary accepted to do this survey from more than 4000 persons randomly selected in the walking marathon. Walking Marathon to Karbala is an annual pilgrimage-like activity for

millions of participants going to this holy city from different places in the world (Figures 1 and 2). In the survey there was some limitation regarding to females because of social restriction. Data collection was done in five different locations on the special road of the visitors at Najaf province. The survey concentrated on Smoking habit, importance of Oral Hygiene to them, their visits to the dentist regularly, and any systemic disease in addition to demographic questions. Each survey took up to 20 minutes. For this purpose, we have trained the data collectors on filling the survey as a part of activity of final year dental students in collaboration with College of Dentistry, University of Kufa, Iraq.



Figure 1. Mass gathering for visiting to Karbala.



Figure 2. Mass gathering at karbala holy shrine.

RESULTS

We received a 3500 (2000 male, 1500 female) filled surveys from the data collectors in five locations. The majority of participants in this study are Iraqi (50.8%) and in the second place are Iranian nationalities (28.8%). The majority of age groups participated are 18-20 years old (26.6%) after them are 31-40 years old (Table 1). Most of participants visited their dentist once time in the last 6 months (Table 2). Most of participants who have systemic disease are suffering from heart problems (28.5%), then the diabetic mellitus comes in the second place (24.3%) and some of them have more than one disease (Table 3). Students are the majority of the visitors. Besides that, as an occupational point of view students comes in the first place in oral hygiene awareness, which shows the effect of education upon them (Table 4). The occupation and educational level effect on the brushing times as showed in (Table 5). (24.8%) of participants are smokers and the majority of them in age group 18 -20 years old. There was a statistically significant difference between the smoking habits and gender as (Table 6) shows.

Age Group	Country					Total	Sex	
	IQ*	IR*	GC	EC*	Others*		Male	Female
18-20	517	250	99	45	20	931	584	347
21-30	345	188	77	12	12	634	380	254
31-40	367	356	55	34	10	822	400	422
41-50	88	55	67	55	6	271	170	101
51-59	177	65	38	23	12	315	176	139
60-69	260	77	33	32	12	414	207	207
71-80	27	17	39	23	7	113	83	30
Total	1781	1008	408	224	79	3500	2000	1500

*IQ=Iraq, *IR=Iran, *GC=Golf countries, *EC=European Countries, *Other=Other minor numbers from different countries

Table 1. Distribution of different age, sex, country's people are involved in this study.

Visited to the Dentist	Male	Female	Total
One or more in the last six month	787	226	1013
Once Last year	350	253	603
Once Last two year	288	305	593
Once a life	350	337	687
Never	225	379	604
Total	2000	1500	3500

Table 2. Number of persons visited Dentists in their living places.

Occupation	Any systemic disease						Total
	Heart	Hp	Liver	Dm	Arthritis	Other	
House wife	99	45	20	133	54	32	383
Students	0	0	12	2	19	9	42
Businessman	55	34	10	32	21	5	157
Employee	53	55	6	17	22	21	174
Unskilled workers	34	23	12	23	33	3	128
Unemployed	68	32	12	57	17	13	199
Total	309	189	72	264	166	83	1083

*Heart=Heart problem, *Hp=Hypertension, *Liver=Liver problem, *Dm=Diabetes mellitus

Table 3. Occupations and systemic disease.

Occupation	M	F	Bleeding gum
House wife	0	297	207
Students	857	577	35
Businessman	367	29	33
Employee	293	455	110
Unskilled workers	189	65	309
Unemployed	294	77	289
Total	2000	1500	983

Table 4. Occupations, sex and oral health.

Occupation	Brushing of the teeth /day					Total
	Three	Two	One	Occasional	Never	
House wife	37	59	113	67	21	297
Students	279	379	167	576	33	1434
Business	97	131	37	33	98	396
Employee	178	203	105	165	97	748
Unskilled workers	32	45	75	38	64	254
Unemployed	39	77	99	103	53	371
Total	662	894	596	982	366	3500

Table 5. Occupation and brushing time.

Smoking	M	F	Total
18-20	317	35	352
21-30	219	47	266
31-40	117	13	130
41-50	97	27	124
51-59	197	39	236
60-69	209	17	226
71-80	67	13	80
Total	1223	191	1414

Table 6. Smoking habit in relation to the sex.

DISCUSSION

The purpose of this study is to see the visitor's motivation toward the Oral Hygiene in mass gathering. Also to see the relationship between their Oral hygiene and the existing systemic disease. This study is the first study in Iraq and middle-east region which aims to concentrate on the importance of Oral Hygiene in mass gathering. We have tried to motivate the participates to have an idea about the importance of the Oral Hygiene to their health, which have a great link between them as established in new recent [6-8].

From our observation in this study we have found most of the people they ignored their Oral hygiene because of the mass gathering, and most of them lost the knowledge's of the importance of the Oral Hygiene toward the general health. As a part of activity to our final year students we have produced thousands of leaflets and fixed posters to motivate the visitors on the importance of the Oral Hygiene as in (Figures 3 and 4).



Figure 3. Oral hygiene poster for the importance of the oral hygiene in the mass gathering.



Figure 4. One of the rest area in the walking road we asking the participant to fill the questioners.

This study is considered as an initial study regarding to the Oral Hygiene in relation to systemic disease in our areas. We do hope that all the mass gathering coordinators to make a coordination link with Ministry of Health and Ministry of Higher education for establishing Oral hygiene groups in mass gathering in collaboration with WHO and other health care local organizations to insure the implementation of the IHR (International Health Regulations) in such events [2].

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Conflict of Interest: None.

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