

Pattern of Medical, Surgical and Orthopedic Disorders during Annual Pandharpur Wari Pilgrimage

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Abstract

Introduction: Pandharpur pilgrimage also called as Pandharpur wari is a holy pilgrimage existing over 800 years and consists of 200-250 km foot pilgrimage starting from Alandi (District: Pune), passing through district Satara and ending at Pandharpur (District: Solapur) (Western Maharashtra, India). The wari takes place during the month of Ashad (July) every year and lasts for 18-21 days.

Materials and Methods: The study enrolled all the pilgrims who sought medical help at our ambulance station, which travelled with the warkaris along the entire route. They were enrolled and given treatment. Their information was filled in a preset questionnaire, by medical personnel who were also delivering treatment. The data were entered into Microsoft excel sheet and were analyzed using statistical tests.

Results: A total number of pilgrims (who sought medical help) were 2365 (male - 1436, female - 929) (registered - 2079, non-registered - 286). 33% of pilgrims were undertaking pilgrimage for more than 10 years. The most common medical disorders observed were diarrhea, respiratory tract infections, knee pain, back pain, and foot pain. All these disorders showed an increasing pattern as the pilgrimage progressed with more cases reported in Solapur district (Malshiras, Wakhari). Orthopedic and Surgical disorders included fractures ($n = 4$), accidents, contused lacerated wounds, and gynecological problems. There was statistically significant increase in a number of patient disorders as the pilgrimage proceeded.

Conclusion: There is a need for coordinated, permanent effort in providing medical help to pilgrims, and the villages through which this pilgrimage travels. Furthermore, more research is needed in understanding this mega event so that coordinated efforts in terms of clean hygienic food and drinking water, toilet services, sewage disposal, and sanitary care can be provided during this mega event to prevent the disease burden in the pilgrims and the villagers.

Key words: Medical disorders, Orthopedic disorders, Pandharpur wari, Pilgrims, Surgical disorders

INTRODUCTION

Pandharpur Ashadhi Ekdashi wari is one of the most famous pilgrimages in India, which has been taking place for

more than 800 years. The annual pilgrimage to the famous Vitthal temple at Pandharpur in Maharashtra (Western India) is an unparalleled phenomenon that is undertaken by pilgrims of various castes, creed, rich, and poor. The pilgrims follow the tradition of carrying the paduka (footwear) of the saints in a palakhi (palanquin). This annual pilgrimage is a 21-day trek and over 250 km, which culminates on the Ekdashi (11th day after the full moon in the month Ashadh [June-July]) according to the Hindu lunar calendar. The warkaris (pilgrims) walk their way to Pandharpur and spend their nights in the camps set up in different villages en route. The local people from these villages make arrangements to

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lodge and feed the warkaris. The halts are, namely at Pune, Jejuri, Lonand, Malshiras, and Wakhari.

Although local people cooperate, the provisions for food, drinking water and sanitation always fall short of the demand. Open air defecation and toileting is very common, and thus, increasing the chances of food and water-borne diseases among the warkaris and also among the locals' days after the wari has left the place. July month is the peak for the monsoon season in India, thus increasing chances of respiratory infection, plus walking for a 200 km increases foot and footwear related problems. Pilgrims suffer from various common medical disorders and receive medical help and treatment from the number of private medical camps, ambulances and hospitals and government mobile dispensaries. Our study was aimed at studying the pattern of medical and surgical disorders during this holy pilgrimage.

Various studies describing medical diseases during Hajj pilgrimage¹⁻³ Amarnath pilgrimage^{4,5} have been reported, as far as our knowledge and literature search, no study till date assessing medical disorders during this Pandharpur pilgrimage exists.

MATERIALS AND METHODS

The study is a prospective study conducted during the pilgrimage period. The Ethics Committee approval was taken before undertaking this study. The study enrolled all the warkaris who sought medical help at one of our medical ambulances. Our ambulance travelled as the pilgrimage proceeded. The study was conducted at five different places along the route of pilgrimage; these places are as follows - Pune city (Hadapsar, Pimpri Chinchwad), Jejuri, Phaltan, Malshiras, and Wakhari.

The inclusion criteria were as follows - Pilgrims who have new medical problems during the pilgrimage seeking medical attention and aggravation of asthma. Data of the enrolled warkaris were collected by medical personnel by filling a set questionnaire. The data collected was entered into Microsoft excel sheet and was analyzed, and statistical tests were applied. Most of the disorders were addressed at the ambulance station with medicines and injections, dressing and primary medical treatment. Patients with accidents and fractures were referred to the nearest tertiary center for further management.

RESULTS

Total numbers of pilgrims (who sought medical help) were 2365 (male - 1436, female - 929). The most common age group was from 31 to 70 years ($n = 1014$)

(range - <10-90 years) (Table 1). Registered were 2079, nonregistered were 286 (Table 2). 67% of the pilgrims were undertaking pilgrimage for <10 years, 33% of pilgrims were undertaking pilgrimage for more than 10 years (Table 3). The most common medical disorders observed were diarrhoea, respiratory tract infections, knee pain, back pain, foot pain, orthopedic and surgical disorders included fractures ($n = 4$), accidents, contused lacerated wounds, gynecological problems (Table 4 and Figure 1). All these disorders showed an increasing pattern as the pilgrimage progressed with more cases reported in Solapur district (Malshiras, wakhari) (Figure 2a-c). There was statistically significant increase in a number of all patient disorders ($P < 0.0001$, $P < 0.005$) (except knee, whole body pain, ear and footwear problems) as the pilgrimage proceeded (Tables 5 and 6). However, the disorders occurring in unregistered patients did not show a significant correlation than those with registered patients as was hypothesized ($P > 0.05$) (Table 7). The statistical test applied was Chi-square test.

DISCUSSION

Pandharpur pilgrimage (wari) is a holy pilgrimage existing over 800 years and consists of a 200-250 km of barefoot

Table 1: Age and sex distribution in wari patients

Age (years)	Male	Female	Total
10-20	44	20	64
21-30	127	73	200
31-40	222	242	464
41-50	352	194	546
51-60	367	230	597
61-70	256	151	407
71-80	60	19	79
81-90	8	0	8
Total	1436	929	2365

Table 2: Registered/unregistered

Registered/unregistered	Number of cases (%)
Registered	2079 (87.9)
Unregistered	286 (12.1)
Total	2365 (100)

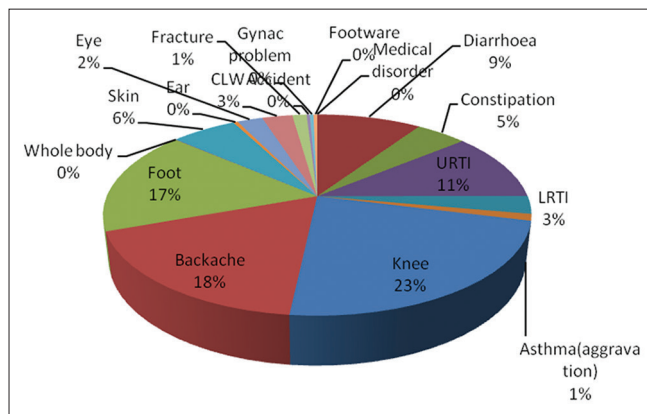
Table 3: Total number of years of wari

Total years of wari	Number of cases
1 st time	140
1-3	603
4-6	422
7-10	424
11-20	532
21-30	153
>30	91
Total	2365

Table 4: Medical disorder during wari

Medical disorder	Number of cases	Percentage (n=2365)
Diarrhea	397	16.8
Constipation	195	8.2
URTI	460	19.4
LRTI	121	5.1
Asthma (aggravation)	46	1.9
Knee	961	40.6
Backache	747	31.6
Foot	710	30
Whole body	3	0.1
Skin	249	10.5
Ear	16	0.7
Eye	99	4.1
CLW	116	4.9
Fracture	54	2.3
Accident	12	0.5
Gynac problem	14	0.6
Footware	14	0.6

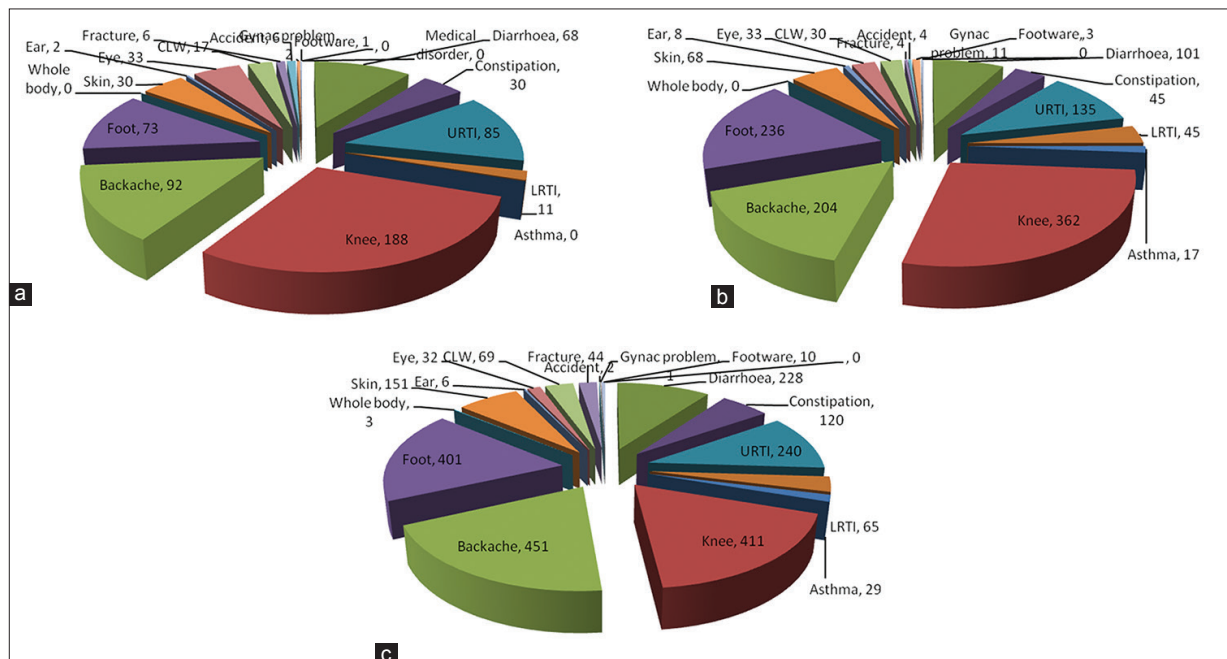
URTI: Upper respiratory tract infection, LRTI: Lower respiratory tract infection

**Figure 1: Disease burden percentage wise**

pilgrimage starting from Alandi (District: Pune) and ending at Pandharpur (District: Solapur) (Western Maharashtra, India). The wari takes place during the month of Ashad (July) and lasts for 18-21 days. There are two palaquein (palkhis), the Saint Dynaneshwar and Saint Tukaram Palkhi and the route is as follows - Saint Tukaram's Palkhi procession starts from Dehu and reaches Pandharpur via Aakurdi, Pune, Lonikalbhor, Yavat, Varvand, Baramati, Indapur, Akuj and Wakhri, respectively. Saint Dnyaneshwar's Palkhi goes through the cities of Alandi, Pune, Saswad, Jejuri, Lonand, Faltan, Natepute, Malshiras, Velapur, Shegaon and Wakhri to Pandharpur. Both the palkhis meet at Wakhri and proceed to Pandharpur (Figure 3).

The wari's unit of organization is the Dindi - A group of few dozen to a thousand men and women, often from the same village or community. Each Dindi has a truck with luggage and supplies, and staff who travel ahead in the morning to set up camp and cook at pre-appointed rest stops while the pilgrims walk in the day most of them barefoot.

The Saint Dnyaneshwar procession includes a pilot bullock-cart followed by two ceremonial horses, 27 Dindi, the chariot, and hundred more Dindis. During this 18-21 days March various rituals and events for entertainment are held at different places, all keeping to a tight schedule. The warkaris give up all the wordly pleasures and comforts, during their journey to Pandharpur. They uphold a strict vegetarian diet throughout and observe fasts during the pilgrimage. During this journey, the warkaris always address each other as "Mauli" (mother like) and never use their real names. These warkaris

**Figure 2: (a) Pune district disease burden, (b) Satara district disease burden, (c) Solapur district disease burden**

are undemanding and highly disciplined. Not a single mishap or major accident has occurred till date in the history of this pilgrimage. Political parties, other organizations and individuals stand by the road to hand out water and food to the pilgrims. The locals at each halt also help generously.

Such a pilgrimage requires clean water for drinking, ablution, and maintaining sanitation issues at the halts, housing tents and other facilities, considering the magnitude of the event and over 8 lakh devotees participate during this event, provisions in terms of clean food, drinking water provisions and sanitation facilities appear scarce. These lack of basic sanitation, create a major health risk and needs to be researched. Separate research is required

for understanding the requirements and providing these facilities and understanding the management of the wari. The social and economic impact of wari has been studied,⁶ however, health impact is not yet studied.

Baad in his study of employment generation during the wari period in Pandharpur concluded that the temporary employment (lodging, boarding services, and temporary services), generated by the wari is three and half times more than the permanent employment (production services).⁶

Pendharkar *et al.* in their social impact study of Pandharpur wari concludes with a discussion on the wari's contribution to social discourse, the ecological embeddedness of its performative traditions, the competing interests of a socially endowed temple complex, and the implications of new varieties of appropriation influencing the wari's spiritual commons.⁷

Hajj is the largest annual religious ritual in the world, and also an obligation to be carried out at least once in the lifetime of every physically, psychologically and financially Able Muslim, also it is one of the largely studied in terms of medical conditions and infectious disease outbreaks.¹⁻³ Al-Ghamdi *et al.* studied the pattern of admission to hospitals during Hajj pilgrimage, hospital admission during Hajj is related to old age and occurs in patients with associated comorbid conditions. During this mild weather lower respiratory tract infections and exacerbation of bronchial asthma and chronic obstructive pulmonary diseases are the most commonly encountered diseases during Hajj.¹

In India, Kumbh Mela is one of the biggest mass gatherings which have been studied and have been associated with

Table 5: Medical disorder according to registered/unregistered pilgrims

Medical disorder	Registered (n=2079)	Unregistered (n=286)	Total	Z value	P value
Diarrhoea	351	45	397	0.5	>0.05
Constipation	167	28	195	0.95	>0.05
URTI	404	56	460	0.06	>0.05
LRTI	109	12	121	0.81	>0.05
Asthma	41	5	46	0.26	>0.05
Knee	845	116	961	0.03	>0.05
Backache	661	86	747	0.59	>0.05
Foot	634	76	710	1.4	>0.05
Whole body	3	0	3	1.71	>0.05
Skin	210	39	249	1.66	>0.05
Ear	13	3	16	0.67	>0.05
Eye	78	21	99	2.25	>0.05
CLW	105	11	116	0.97	>0.05
Fracture	48	6	54	0.23	>0.05
Accident	12	0	12	3.48	<0.001
Gynac problem	10	4	14	1.29	>0.05
Footware	14	0	14	3.74	<0.001

URTI: Upper respiratory tract infection, LRTI: Lower respiratory tract infection

Table 6: Medical disorder during according to place

Medical disorder	Pune n=116	Jejuri n=360	Lonand n=548	Phaltan n=280	Natepute n=84	Bshegaon n=73	Velapue n=36	Malshiras n=318	Wakhri n=549	Total 2365
Diarrhea	14	54	73	28	21	17	9	87	94	397
Constipation	4	26	32	13	4	11	3	22	80	195
URTI	15	70	96	39	30	18	9	77	106	460
LRTI	2	9	10	35	13	0	6	26	20	121
Asthma	0	0	9	8	1	0	0	0	28	46
Knee	53	135	275	87	16	41	7	51	296	961
Backache	44	48	136	68	7	46	2	34	362	747
Foot	23	50	155	81	15	37	6	50	293	710
Whole body	0	0	0	0	0	0	0	1	2	3
Skin	6	24	44	24	6	20	4	41	80	249
Ear	0	2	5	3	0	2	0	0	4	16
Eye	13	20	24	9	2	3	0	10	17	99
CLW	0	17	16	14	2	1	3	19	44	116
Fracture	0	6	2	2	0	0	1	1	42	54
Accident	0	6	4	0	0	0	0	1	1	12
Gynac problem	1	1	6	5	0	0	0	0	1	14
Footware	1	0	3	0	0	0	0	10	0	14

URTI: Upper respiratory tract infection, LRTI: Lower respiratory tract infection

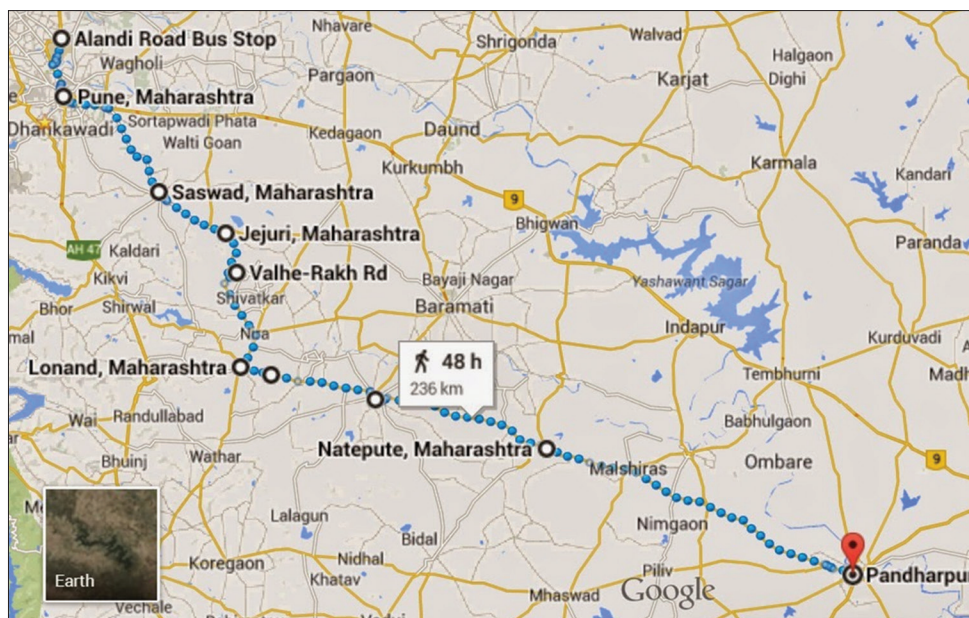


Figure 3: Route and map of Pandharpur wari (Maharashtra, India)

Table 7: Medical disorder during according to district

Medical disorder	District			Chi-square value	P value
	Pune (n=476)	Satara (n=828)	Solapur (n=1061)		
Diarrhoea	68	101	228	31.41	<0.0001
Constipation	30	45	120	24.19	<0.0001
URTI	85	135	240	12.81	<0.005
LRTI	11	45	65	10.12	<0.005
Asthma	0	17	29	12.95	<0.005
Knee	188	362	411	5.11	>0.05
Backache	92	204	451	110.16	<0.0001
Foot	73	236	401	80.29	<0.0001
Whole body	0	0	3	3.69	>0.05
Skin	30	68	151	29.19	<0.0001
Ear	2	8	6	1.69	>0.05
Eye	33	33	32	12.77	<0.005
CLW	17	30	69	10.54	<0.005
Fracture	6	4	44	30.78	<0.0001
Accident	6	4	2	7.49	<0.05
Gynac problem	2	11	1	12.34	<0.005
Footware	1	3	10	4.14	>0.05

CLW: URTI: Upper respiratory tract infection, LRTI: Lower respiratory tract infection

diasaters^{8,9} and Amaranth yatra^{4,5} is one of the most holy pilgrimage in northern Himalayas, associated with casualties due to difficult terrain and high altitude problems. Mir *et al.* studied the profile of nontraumatic surgical disorders found in the pilgrims/trekkers travelling to Shri Amarnathji Cave; they concluded that Pilgrims who intend taking up the yatra in future should seek medical advice before their departure.⁵

Of the 2365 pilgrims who were enrolled, the most common disorders were of diarrhea, respiratory tract infection, problems arising due to walking like knee pain, back pain, foot, and footwear related problems. As the pilgrimage

progressed, the disorders increased significantly. District wise and place wise patient number increased significantly as the pilgrimage reached its end point at Pandharpur. Although we hypothesized that unregistered pilgrims will have more health related disorders than registered pilgrims, this was not found in our study maybe due to a small number of unregistered pilgrims enrolled. The only drawback of our study could be the number of patients enrolled considering 8 lakh devotees in pilgrimage.

CONCLUSION

During Pandharpur wari, a lot of uncoordinated private and government medical support (Private ambulance, on road private hospitals, government public health centers) is provided; however, there has been no study until this date to assess the actual problems and effects of medical services delivery on the field. Our study aims to assess the pattern of medical, surgical and orthopedic disorders occurring during this event, which will not only document but also help to plan for organized and coordinated medical relief services during this event.

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