

Original article

Impact Of Health Awareness Intervention Among The Women Sweepers Working Under The Midnapore Municipality Of West Bengal, India

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Abstract

Background: Women sweepers is the vulnerable segment of our community and suffering from different occupational health problems due to limited education, lack of knowledge on occupational health hazards. The present study aimed to assess the awareness level regarding occupational health and personal hygiene and to evaluate the effect of occupational health intervention among the women sweepers. **Methods:** The study adopted a pre-test and post-test design. A total of 52 women sweepers in the age group of 25 to 60 years were selected randomly from Midnapore Municipality of West Bengal, India. At first, a self-structured questionnaire was prepared on the aspects of general health, occupational health, personal hygiene, environmental health and nutritional aspects. After the pre-awareness assessment an intervention package was delivered covering said domains. Then post testing was done on the participants after the period of intervention. **Results:** Results demonstrated that there was a considerable increase in the awareness levels among the women sweepers with regard to knowledge of health problems, occupational health. The knowledge of participants regarding personal hygiene improved markedly after imparting the intervention. With regards to preventive approaches of diseases among the women has increased after the intervention. Overall health knowledge increased significantly post-awareness stage than pre-awareness stage ($P<0.001$). **Conclusion:** The study concluded that occupational health intervention has a positive effect towards the improvement of awareness level among the women sweepers which may change their health habits.

Key Words: Women sweepers, occupational health intervention, Midnapore Municipality

Introduction:

Globally about a million acute injuries and 200000 deaths are recorded every year as a result of exposure to physical and chemical hazard in the work places¹. These include cases of noise induced hearing loss, chronic musculoskeletal injuries, infections and chronic disease from exposure to dust, metals, solvents and other chemicals^{1,2}. Air pollution kills an estimated 2.70-3.00 million people every year throughout the world which is

about 6% of all annual deaths³. Musculoskeletal disorders represent one of the leading causes of occupational injury in the developed and developing countries^{4,6}. The economic loss due to such disorders affects not only the individual but also the organization and the society as a whole⁴. In many countries, the prevention of work related musculoskeletal disorders has been considered as a national priority⁷. In India occupational hazards are prevalent in the agriculture, construction, carpentry, brickfield work-

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er, stonecutter, metalworker, car repair, and road sweepers. The occupational hazards induce in those persons are exposed to noise, road dust, saw dust, stone dust, smoke, and chemicals in long hours of works. But they are unaware about their occupational hazards i.e., postural health hazards, life style hazards, silica inhale hazards like silicosis, pneumococcosis, tuberculosis etc ⁸.

Sweeper has been dedicating their lives for cleaning of our community but they are treated as untouchable. The community is isolated them in terms of socio-economical and mental aspect from the mainstream community⁹. In our country substantial numbers of women are engaged in these sectors and they are generally belongs to the poor socio-economic stratum. The lives of the women sweepers are characterized by limited education, lack of knowledge on occupational health hazards and they have been suffering different diseases with occupational problems. One must consider that the common association of poverty to the lack of information and low educational level lead to the exclusion of women due to their ignorance of their own rights regarding health and primary preventive actions, which contributes to increasing the risk of complications¹⁰. Beside this in our society, women health is generally neglected as they are engaged to manage the health of husband, children and the senior member in their house. Even those women who are engaged in different occupation they also perform the domestic works for their family members.

The present study was conducted to assess the awareness level on occupational health among the women sweepers working in Midnapore Municipality, West Bengal and also evaluate the impact of occupational health intervention.

Materials and Methods

Study area and participants

The present study was conducted in Midnapore Municipality of Paschim Medinipur district, West Bengal, India. Midnapore is the district headquarters and situated around 150 km away from Kolkata, the provincial capital of West Bengal. Total 52 female sweepers were randomly selected in our study who was engaged in their work during past 5 years under the Midnapore Municipality. All these participants belong to socio-economically weaker section of our society.

Study tools

A self-structured questionnaire was formulated to assess the knowledge level of women sweepers on occupational hazards and their life style. Every question carried a specific score. The questionnaire covered mainly on occupational health hazards, maintenance of personal hygiene, sanitary system, preventive approaches of diseases and their habits.

After the pre-awareness evaluation, the health intervention was imparted to the participants. The improvement of knowledge and change in their attitude were assessed by fresh questionnaire method at post-awareness stage.

Data analysis

After completion of the study statistical analysis was performed between post-awareness level and pre-awareness levels using t-test in computer by the software origin.

Ethical approval

Institutional approval was also obtained prior to the conduction of the study. The purpose and importance of awareness programme were explained to them before the study and verbal consent were taken.

Results

Table-I represented the pre-awareness and post awareness level of occupational health related disorders among the women sweepers working under Midnapore Municipality. Study showed that common disorders of women sweepers are pulmonary disease like cough, chest pain, respiratory problem; skin disease like rash, ring worm; organ pain like back pain, muscle pain. Slight improvement of awareness level was noted after the giving the intervention.

Table-II showed the level of awareness about maintenance of personal hygiene and sanitary system. Significant improvement of awareness level was noted regarding nails wash and precaution during the working time. But in case of sanitary system no significant change was observed on the awareness level at post-awareness level.

Table-III compared between the pre-awareness level and post awareness level of knowledge regarding preventive approaches of diseases. Where pre-awareness questionnaire showed few of the participants knew about the communicable diseases like malaria, diarrhea and precaution before food intake but at post-awareness stage it was increased markedly. Results also showed majority of the participants

Table I: Pre and post awareness level of different occupational health disorders among the women sweeper of Midnapore Municipality

Occupational health disorders	Pre-awareness level		Post-awareness level		Chi-square	p-value
	No	%	No	%		
Pulmonary diseases						
Cough	3	5.76	7	13.46	1.77	0.183
Chest pain	7	13.46	6	11.53	0.09	0.668
Respiratory problem	7	13.46	4	7.69	0.91	0.338
No symptoms	35	67.30	35	67.30	0	0
Skin disease						
Rash with itching	25	48.07	20	38.46	0.98	0.322
Ring worm	12	23.07	11	21.15	0.06	0.813
No symptoms	15	28.84	21	40.38	1.53	0.216
Organ pain						
Back pain	7	13.46	6	11.53	0.09	0.766
Muscle pain with back pain	43	82.69	35	67.30	3.28	0.07
No symptoms	2	3.84	11	21.15	7.12	0.007

Table II: Pre and post-awareness level on personal hygiene and sanitary system among the women sweeper of the Midnapore municipality

Personal hygiene	Pre awareness level		Post awareness level		Chi-square	p-value
	No	%	No	%		
Nail wash						
1-2days interval	2	3.84	9	17.30	4.98	0.025
7 days interval	48	92.30	42	80.76	2.97	0.084
Often	2	3.84	0	0	0	0
Wash cloth with soda						
7 days interval	19	36.53	13	25	1.63	0.202
1-2 days interval	18	34.61	21	40.38	0.37	0.543
Occasionally	4	7.69	1	1.92		0.362
Regularly	11	21.15	17	32.69	1.76	0.184
Precaution before the use of utensil						
Wash utensil by ash	34	65.38	18	34.61	9.85	0.001
Wash utensil by ash+ soda	11	21.15	22	42.30	5.37	0.02
Wash utensil by ash+ soda+ soap	3	5.76	10	19.23	4.31	0.037
Wash utensil with water	4	7.69	2	3.84	0.18	0.674
Protection in working period						
Shoes	39	75	27	51.92	5.97	0.014
Musk+ Shoes	5	9.61	21	40.38	13.13	0.002
Never	8	15.38	4	7.69	1.51	0.219
Sanitary system						
Open place	24	46.15	24	46.15	0	1
Dirty lavatory	19	36.53	19	36.53	0	1
Personal lavatory	8	15.38	8	15.38	0	1
Drain	1	1.92	1	1.92	0	1

Health Awareness Intervention Among The Women Sweepers

Table III: Pre and post-awareness level on preventive approach of diseases among the women sweeper of the Midnapore municipality

Preventive approach of disease	Pre awareness level		Post awareness level		Chi-square	p-value
	No	%	No	%		
Knowledge about malaria						
Yes	8	15.38	15	28.84	2.74	0.098
No	27	51.92	17	32.69	3.94	0.047
Knowledge about diarrhea and cholera						
Yes	10	19.23	32	61.53	19.33	0.001
No	42	80.76	20	38.46	19.33	0.001
Precaution before food intake						
Wash utensil by ash	34	65.38	18	34.61	9.85	0.017
Wash utensil by ash+ soda	11	21.15	22	42.30	5.37	0.02
Wash utensil by ash+ soda+ soap	3	5.76	10	19.23	4.31	0.037
Wash utensil with water	4	7.69	2	3.84	0.18	0.674
Check the blood pressure						
Occasionally	17	32.69	22	42.30	1.03	0.311
Once in a month	2	3.84	5	9.61	0.61	0.433
Once in a year	5	9.61	15	28.84	6.19	0.012
Never	28	53.84	10	19.23	13.44	0.002

Table IV: Pre and post-awareness level on balance diet and chewing habit among the women sweeper of the Midnapore Municipality

Balance diet	Pre awareness level		Post awareness level		Chi-square	p-value
	No	%	No	%		
Balanced diet						
Do not maintain any diet chart	41	78.84	41	78.84	1.77	0.183
Carbohydrate enriched	7	13.46	7	13.46	0.09	0.668
Protein enriched	4	7.69	4	7.69	0.91	0.338
Chewing habit (Ghutka/Tobacco)						
Regularly	35	67.30	30	57.69	1.03	0.311
2-3 in a day	5	9.6	5	9.6	0	1
Once in a day	10	19.23	15	28.84	1.32	0.251
Occasionally	2	3.84	2	3.84	0	1

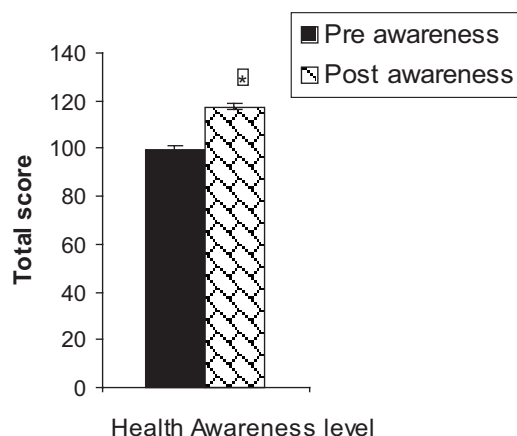


Figure 1: Impact of health awareness programme on women sweepers of Midnapore Municipality. Data are expressed as Mean SEM. Bars with asterisk (*) significantly differ from each other ($t = 9.16; P < 0.001$).

never check their blood pressure.

Table-IV represents the awareness level about maintenance of balance diet and chewing habit (ghutka and/ tobacco) of the female sweepers. Where statistical analysis showed no significant alteration has been noted on the level of taking balance diet and guthka consumption.

Overall improvement of knowledge level was represented in fig.1. Significant improvement was observed in all the domains at post-awareness stage than pre-awareness stage ($p < 0.001$).

Discussion

Occupational health disorders

The present study was conducted among the women sweepers working under the Midnapore Municipality to assess the awareness level on occupational health hazards and their environmental hygiene. The pre-awareness results shows that there is a poor level of knowledge in every aspect of occupational diseases like pulmonary disease, skin disease, different type of organ pain, diarrhea. But after giving the awareness, the knowledge level of participants were increased considerably. Majority of the women sweepers were suffering by muscle pain and skin rash. A previous study carry out in Bangalore Metropolitan City regarding the morbidity among sweepers showed fever, headache, backache, respiratory ailments etc.¹¹ Another study conducted on sweepers at Chittagong city of Bangladesh observed that during last six month one or more person from 25 percent household were suffered from different types of disease.⁹ Lack of education and irregular

health checkup has resulted in delayed diagnosis of many ailments.

Personal hygiene

The study also reveals that majority of the women sweeper did not maintain any personal hygiene and they are living in vulnerable situation which are the main causal factors of different communicable diseases. We impart the importance of hand wash practice, cleaning of nail, wash of utensil before the intake of foods and also demonstrated to take protection at the time of work. In this regard on post-awareness evaluation it is observed that considerable number of sweepers follow this in systemic way.

Preventive approaches of diseases

In the present study we also assess the awareness level regarding the preventive approaches of communicable diseases. The result indicated that the participants had lower level of knowledge in this concern but it change markedly at post-awareness assessment. The result of study in rural areas of Paschim Medinipur districts of West Bengal revealed that the scores for preventive approaches of diseases were improved among the school going children after imparting the educational intervention.¹² Similar findings were observed in a study on geriatric people.¹³

Maintenance of balanced diet and chewing habit

From the angle of food style we assessed the diet pattern in their daily life. Side by side we also assess the habit of gutkha consumption which showed many of the women sweepers regularly intake it. The study showed that lower level of awareness at preliminary stage but after giving the intervention, women's group has reduced gutkha consumption.

Conclusion

The study conclude that after giving the proper occupational health intervention, knowledge level of women sweepers improved significantly at post-awareness evaluation which may change towards the positive health habits. Hence, it seems to us it is possible due to our awareness package.

What this study adds

The results of our study showed that poor level of knowledge regarding the occupational health problems, personal hygiene and preventive approaches of communicable diseases along with prevalent of different occupational health problems. This study also

demonstrated that community based health education intervention might be potential public health initiative to minimize the occupational health-related problems and better practice in women sweepers.

Future scope of study

Further study can be done with a comprehensive approach to determine the causal factors of poor level of knowledge and health status of the women sweepers. More attention has been given on this

weaker section of our society and policymakers should design long-term educational programs to promote the healthy lifestyles.

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