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Original Research Article

Personal hygiene and sanitation in a rural community in Kedah

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ABSTRACT

Background: The concept of hygiene varies amongst individuals and amongst cultures. Personal hygiene and sanitation are interrelated and both can contribute to mode of transmission of disease. As part of a larger community survey, we studied the basic personal hygiene habits and sanitation status of a rural community to find out if practices in this rural community are acceptable.
Methods: This is a descriptive cross-sectional study. We defined appropriate sanitation as proper disposal of garbage and having a sanitary toilet. We used a pre-tested, structured questionnaire and carried out face-to-face interview of representatives from randomly selected household in the village PB in January, 2018. The questionnaire had 16 domains. We focused our findings on 2 domain covering personal hygiene and sanitation. All results were transcribed into excel and analysed using SPSS 22.0.
Results: We collected response from 122 households in a predominantly Malay community. Median household income ranged from RM1000 to RM2000. Main occupation is agriculture and 54.1% live in brick houses, 47% houses being a combination of brick and wood. Most (94.3%) clean their homes daily. Main method of rubbish disposal is by burning. Most have proper latrines with at least a pour flush latrine and at least one washroom. Most (65.5%) clean toilets daily. All wash their hands before meals (91.8% using soap). Most (91.8%) shower at least twice daily and brush their teeth at least twice daily.
Conclusions: This rural community practices appropriate personal hygiene in line with the cultural norms and they have good sanitation.

Keywords: Personal hygiene, Sanitation, Rural community

INTRODUCTION

The World Health Organization's sustainable developmental goal 6 (SDG6) is to ensure access to water and sanitation for all.[1] According to this report, 2.4 billion people around the world lack access to basic sanitation services such as toilets and latrines. Every person has a right to be able to access potable water and proper sanitation. Potable water and sanitation are a fundamental human need, required for human development. It basically refers to provision of facilities and services for safe disposal of urine and faeces.

Malaysia is generally a clean country but contrasts occur in the urban and the rural areas, where variations in the level of hygiene and sanitation may be seen. Most areas of the peninsula are provided with safe and potable water. Water utilities in this country is managed and overseen by the respective states water authorities. In Malaysia, rural refers to areas outside the local authority or the municipality operational area. National data shows that about 24.5% of the population of the country lives in rural areas: in the state of Kedah about 29.1% of the population lives in rural areas.[2] National data also shows that 96.5%

of houses in the rural area are served with clean water supply and 96.3% are served with sanitary latrines.[3]

Good hygiene is an important barrier to many diseases especially fecal-oral and respiratory tract infections. Personal hygiene and sanitation are interrelated and both can contribute to mode of transmission of disease. For best health benefits, any improvements in hygiene should be in tandem with improvements in water and sanitation. The concept and level of hygiene varies amongst individuals and amongst various cultures. As part of a larger community survey, we studied the basic personal hygiene habits and sanitation status of a rural community to find out if practices in this rural community are acceptable.

METHODS

Study design

This is a descriptive cross-sectional study conducted in a rural community, village PB in the State of Kedah, Malaysia between January and February, 2018. The study is part of the mandated Year 3 curriculum in the University where students, under the guidance of a supervisor are required to design, plan and execute a rural community survey after studying the community needs. Annually 7 such surveys are carried out in the state, each time a different community is selected. Ethical clearance is universal and not required for an individual group as it is a blanket approval for all the sub groups. There were 3 distinct areas in the village and we focused our study on 1 section which consisted of 200 houses.

Sample size determination

Using Rao soft sample size calculator, with a confidence interval of 95%, accepting a margin of error of 5%, response distribution of 50%, the minimum sample size required was 116.[4]

Questionnaire

We defined appropriate sanitation as proper disposal of garbage and having a sanitary toilet. We used a close-ended, bilingual, pre-tested, structured questionnaire and carried out face to face interview of representatives from randomly selected household in the village. We interviewed the head of each household and if the head of the household was not available, we interviewed the most senior member of the household present.

Inclusion and exclusion criteria

We started at various entry points of the village and houses were randomly selected with assistance of the village head who pointed out where the houses were located. We included all households where the head of the household gave verbal consent and was willing to take part in our survey. We assured them that no names nor or other identifying factors would be collected. We worked in groups and kept to our assigned locality so that there would be no duplication of visits. We excluded those who were either not at home or did not give consent to take part in the survey.

Pre-testing was done within the group. The questionnaire had 107 items with 16 domains that covered various aspects of daily life in the village. We focused these findings on demographic profile and on the 2 domains covering personal hygiene and sanitation - hand washing, showering, brushing of teeth, type of latrine and solid waste disposal. In the process of interviewing we also observed where possible, aspects of daily life that may assist us in appreciating the living conditions in the village. All results, after verification was transcribed into excel and analysed using SPSS 22.0.

Definitions

We defined household as a person or a group of people (related or unrelated) who usually live together in a living quarter and make provisions (expenses) for food and other necessities of life together. Household income refers to overall income that is earned by household members. Sanitary latrines are those as listed under the millennium development goals as an improved sanitary latrine and include a flush or pour flush into a piped sewer system, septic tank or pit latrine. It also includes a pit latrine with a slab.[5]

RESULTS

The village PB is located about 10 km from the nearest town. It is a self-sufficient village with a local surau, school and health center within a 5 km radius. There was a total of 122 respondents from 122 homes, with 23.8% males and 76.2% females. This was a predominantly Malay community. Most of household income was below RM2000 putting them in the B40 group i.e. those 40% of community with household income less than RM3000 per month as defined by the department of statistics, Malaysia.2 Most of the male adults were involved in agriculture with 39.3% either retired or unemployed.

In spite of the lower socio-economic status of the residents, the majority (54.1%) lived in brick homes with 55 (45.1%) living in homes that are both wooden and of bricks (Table 2). The houses were large with most (76.2%) having 3 or more bedrooms. All have washrooms and latrines with almost all (95.1%) having improved sanitary latrines. Garbage was mostly disposed by burning (85.3%). Those who lived closer to the main road leading to the village were serviced by the council garbage collection (1.6%) or else they were able to send it to the common dumping site for collection (10.7%).

Daily showering is a norm and most (86%) shower at least 3 times a day. Around 51.4% brush their teeth 3

times daily. All wash their hands before a meal with 92% always using soap to wash their hands.

Cleaning habits

We looked at the cleaning habits to determine how often they keep their home and surroundings clean.

Table 1: Demographic profile of respondents.

	Number	%
Gender		
Male	29	23.8
female	93	76.2
Education Level		
Primary	33	26.8
Secondary	72	58.5
Tertiary	4	3.3
Illiterate	14	11.4
Occupation		
Retired/ unemployed	48	39.3
Agriculture/farming	28	23.0
Business and sales	9	7.4
Skilled worker	14	11.5
Clerical and technical	10	8.2
Professional and managers	3	2.5
Armed forces	1	0.8
Others	9	7.4
Monthly Household Income (RM)		
<1000	68	55.7
1000–2000	36	29.5
2001–3000	11	9.0
3001–4000	3	2.5
4001–5000	1	0.8
>5000	3	2.5

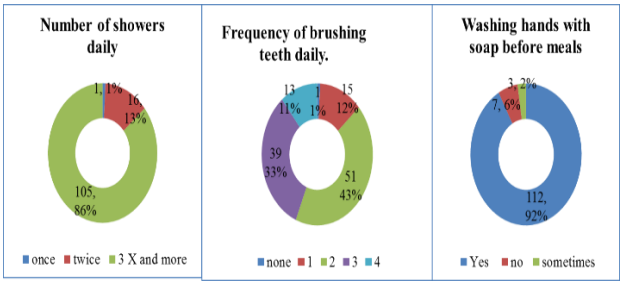

Figure 1: Personal hygiene - frequency of showering, brushing teeth and washing hands before meals daily.

Structure of home and sanitation

Culturally the community keep their homes clean with most (94.3%) cleaning their homes daily and 65.6% cleaning their toilets daily. Most get rid of garbage from their homes daily.

Table 2: Structure of home, water source and garbage disposal.

	Number	%
Type of home		
Wooden	1	0.8
Bricks	66	54.1
Mixed (wood and bricks)	55	45.1
Number of bedrooms		
1-2	29	23.8
3-5	88	72.1
>5	5	4.1
Number of washrooms		
1	74	60.7
2	39	32.0
3	7	5.7
>3	2	1.6
Water source*		
Pipe	120	-
Rain water	1	-
Ground water	4	-
Hill water	25	-
Well	14	-
River	1	-
Type of latrines		
Sanitary pit latrine	35	28.7
Septic tank	36	29.7
Pour	45	36.8
Flush bucket	6	4.8
Main method of garbage disposal		
Garbage collector by council	2	1.6
Common dumping site	13	10.7
Burning	104	85.3
Burying	1	0.8
Composting	2	1.6

* More than 1 source of water used by some.

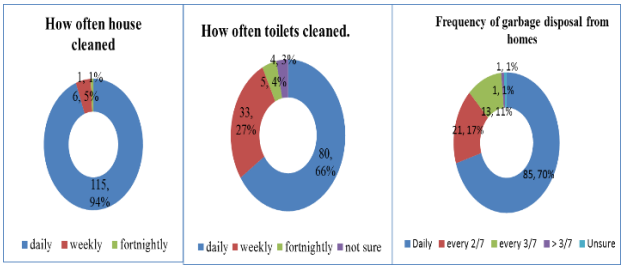

Figure 2: Habits involving cleanliness of home and surroundings.

DISCUSSION

The median household income of this community ranges from RM1000 to RM2000 and this puts most of those in this community in the B40 group, which in this country

refers to the lower 40% of the population that earn less than RM3000. In spite of this overall personal hygiene and sanitation is good. Structurally the houses are large enough for their families with sufficient rooms, at least one latrine per home and with access to potable water. The 11th Malaysia plan is a strategic plan that paves the way for Malaysia to deliver a future that the people deserve. A focus of the 11th Malaysia plan is to provide quality and sufficient, affordable housing from poor to middle income household.[7] Housing and sufficient space is not a problem in this village with the majority of the villagers here having at least 3 bedrooms in their homes, and it's generally larger than those of the urban poor as studied.[8]

Malays and Malaysians culturally practice good hygiene. This is a largely agricultural community and most of the people here work in the fields. Having more than 2 baths per day is expected due to the hot climate. This is the accepted norm in Malaysia. Being involved in agriculture in humid conditions spurs one to shower frequently especially for comfort. Almost all our study participants brush their teeth at least once daily with 87% brushing twice or more daily. This is similar to a finding in Penang where 87% of respondents aged 16 years brushed their teeth at least twice daily.[9]

Houses here are swept daily with brooms. Cleaning by sweeping with brooms are the preferred choice in about 70% of those in the Asia Pacific region, using that method to clean their homes.[10] The toilets used are mostly pour flush and they are regularly cleaned. Access to toilets is a basic human right and here all the homes their own toilets in spite of the rural setting. Owning their own toilet motivates the home owner to keep it clean. Shared sanitation may not give the user responsibility to keep it clean.[11] The frequency of cleaning would be much less and may not be clean. Solid waste management in the country is under the purview of the local government as stated in the local governments Act 1976.[12] The method of waste disposal as found here is sanitary, which is burning, as garbage is not collected regularly. The small roads in the interior of the village are not accessible by the city and council garbage trucks. However, burning is not a sustainable method of garbage disposal due to its effect on the environment and alternate measures need to be looked into. In addition, the country has started a program of waste separation that has been implemented in stages and in key areas around the country, but this is not practice here as all garbage was burned. The current focus is on recycling and to reduce carbon dioxide emissions. Therefore, backyard burning is of concern as it a source of dioxin production that ultimately enters the food chain.[13] We need to move towards sustainability and a holistic approach is needed.[14]

There are no commercial water lines going into his village. Water supply is mostly through gravity feed system that is delivered to the homes via pipes. These gravity feed systems are developed by the State health department. The gravity feed system provides a continuous supply of piped water to the homes. However, water quality may vary and though considered generally safe, studies have shown that the water supplied through a gravity feed may have fecal contamination.[15]

Culturally as well Asians in this region eat with their hands and washing hands before meal is a norm as seen by the 100% response here. About 92% use soap to wash their hands. This is quite similar to another study where amongst Malay school children 88.6% wash hands before eating.[16] However, the use of soap was not discussed. Handwashing prevents transmission of respiratory infections and decreases under 5 child mortality and is a habit to be internalized.[17] Washing hands with soap also prevents transmission of respiratory infections.[18] Health education interventions have been shown to improve health and sanitation habits, however, we did not carry out any interventions here.[19]

Rural areas have a probability of suffering the health effects of improper excreta disposal such as soil pollution, water pollution, contamination of foods and propagation of flies. In addition, just having proper sanitation facilities is insufficient: these sanitation facilities must be used properly for any kind of health improvement to occur. In Malaysia, rural poverty shows an overall decreasing trend since 1970 and in tandem with it household income has shown an overall increase over the same period.[20] On observation, this is a generally clean village with no rubbish strewn in the surroundings. Most of the compounds were clean and litter free. The respondents generally practice good sanitation habits by regularly cleaning their homes, toilets and disposing of their garbage. Here 95.1% have improved sanitary latrines which are similar findings from a world health organization report on Malaysia.[5] Cleaning toilets is also an important aspect of disease prevention and this is practiced here.

CONCLUSION

This rural community is similar to the rest of the country. They are well supplied with the proper infrastructure for sanitary toilets and waste disposal. They practice appropriate personal hygiene in line with the cultural norms and they have good sanitation. Their mode of garbage disposal which is mainly open burning needs to be looked into as this is not a sustainable method for the environment.

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