



## RESEARCH ARTICLE

# DISEASE CONTROL THROUGH HYGIENIC LIFESTYLE: A MISSION APPROACH

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### ABSTRACT

**Background:** Sanitation is a basic human requirement and also an important aspect of public health. Communicable diseases still continue to be the major contributor to global morbidity and mortality. Around 8.5 lakh people in low and middle income countries die as a result of inadequate water, sanitation, and hygiene (WASH) each year, representing 58% of total diarrheal deaths. Open defecation creates a vicious cycle of malnutrition, infection and poverty. 'Swachh Bharat Abhiyan' was launched on 2nd Oct 2014 with an aim to ensure access to sanitation facilities (including toilets, solid and liquid waste disposal systems and village cleanliness) and safe and adequate drinking water supply to every person thus achieving universal sanitation coverage by 2019.

**Conclusion:** Three years have gone so far since the mission was launched. 4.5 crore new toilets have been constructed in race of achieving the targets, however, numbers are about toilets built, not about toilets being used. It has been seen that despite having toilet facility, all people are not using them. Sanitation and hygiene practices should be incorporated from childhood itself as this is the habit forming age for everyone. Health education also plays a vital role in it. People should be made aware of the risks and hazards of poor sanitation through health education so that they become more acceptable towards it and will also incorporate it in their habits and further promote it in their community.

**Key words:** Hygienic lifestyle, Mission Approach.

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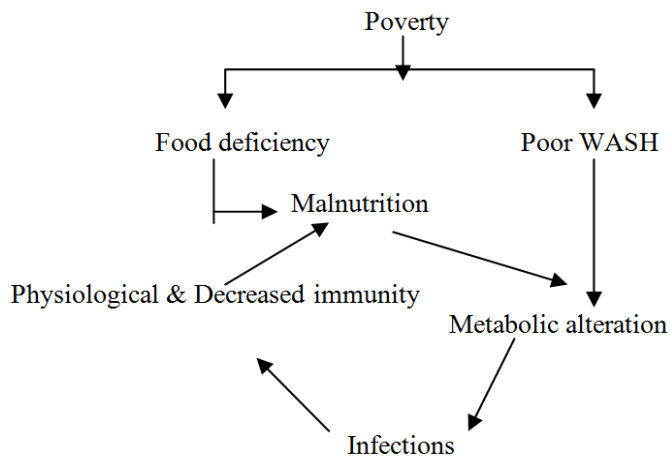
### INTRODUCTION

Sanitation is a basic human requirement and also an important aspect of public health. In 2010, the UN General Assembly recognized access to safe and clean drinking water and sanitation as a "Human Right" and called for international efforts to help countries to provide safe, clean, accessible and affordable drinking water and sanitation. Though we have entered into a developed and advanced era where morbidity and mortality pattern is shifting from communicable to non communicable diseases, the communicable diseases still continue to be the major contributor to global morbidity and mortality. Diarrhea and pneumonia are amongst the leading causes of under five mortality in the world. Inadequate sanitation is estimated to cause around 3 lakh diarrheal deaths annually. Around 8.5 lakh people in low and middle income countries die as a result of inadequate water, sanitation, and hygiene (WASH) each year, representing 58% of total diarrheal deaths (World Health Organisation, 2017). Other infections like typhoid, dysentery, E.coli infection, hepatitis A,

polio etc are also due to poor sanitation and hygiene. Many neglected tropical diseases like intestinal worms, schistosomiasis, conjunctivitis and trachoma are also related to it. Better water, sanitation, and hygiene could prevent the deaths of about 3.5 lakh under five children each year (WHO, 2017). As majority of these diseases have faeco-oral route of spread, they are related to poor water, sanitation and hygiene practices. It has been seen that there is a link between child's linear growth and household water, sanitation and hygiene (WASH) practices. Around 50% of child's under nutrition may be attributable to poor WASH practices. Faeco-oral infections affect a child's nutritional status by diminishing appetite, mal-absorption and increasing nutrient losses. An ecological analysis of data from 112 rural districts of India demonstrated a strong association between the prevalence of open defecation and stunting, after adjusting for potential confounders (Spears *et al.*, 2013). Open defecation creates a vicious cycle of malnutrition, infection and poverty. The countries where open defecation is most widespread have the highest number of deaths of children aged under 5 years as well as the highest levels of malnutrition and poverty, and big disparities of wealth (WHO, 2017).

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Keeping in mind that all these conditions associated with poor water, sanitation and hygiene are preventable, WHO and United Nations have taken various initiatives to improve water, sanitation and hygiene, thus reducing the mortality and morbidity related to it. Number of people gaining access to improved sanitation has increased from 54% to 68% since 1990 worldwide. Between 2000 and 2015, the number of people practicing open defecation has declined from 1229 million to 892 million with an average decrease of 22 million people per year, but around 2.3 billion people still do not have basic sanitation facilities like toilet or latrines. Out of these 2.3 billion, 892 million people still defecate in the open, for example in street gutters, behind bushes or into open bodies of water. Despite progress, the target under Millennium Development Goals-2015 to halve the proportion of the population without access to improved sanitation facilities was missed by almost 700 million people (WHO, 2017). At least 10% of the world's population is thought to consume food irrigated by wastewater (WHO, 2017). This water being contaminated with faecal matter can lead to various health hazards if used untreated, which is a common practice in many low and middle income countries as a large proportion of wastewater in these countries is directly released into rivers, lakes or the ocean either partially treated or untreated. With rapid urbanization the situation of the urban poor poses a growing challenge as they live increasingly in peripheries of mega cities where sewerage is precarious or non-existent and space for toilets and removal of waste is a problem. Inequalities in access are compounded when sewage removed from wealthier households is discharged into storm drains, waterways or landfills, polluting poor residential areas (WHO, 2017).

### International Efforts on the subject

In 2010, the UN General Assembly recognized access to safe and clean drinking water and sanitation as a human right, and called for international efforts to help countries to provide safe, clean, accessible and affordable drinking water and sanitation. In 2013, the UN Deputy Secretary General issued a call for elimination of open defecation by 2025. WHO, along with UNICEF and other partners, are implementing a global action plan for ending preventable child deaths from pneumonia and diarrhoea by 2025. This aims to meet several prevention and treatment targets, including promoting universal access to drinking water, sanitation, and hygiene in health care facilities and homes by 2030 (WHO, 2017). Goal six of Sustainable Development Goals targets to "Ensure availability and sustainable management of water and sanitation for all." Its

second target states achieving access to adequate and equitable sanitation and hygiene for all and ending open defecation by 2030, paying special attention to the needs of women and girls and those in vulnerable situation. The five global public health strategies also target to increase people's access to improved sanitation, combined with delivering preventive chemotherapy for the control and elimination of neglected tropical diseases (WHO, 2017).

### Indian scenario

In India 450 million people defecate in open. The practice of open defecation is much higher in rural areas than in urban areas. In rural areas, 55.4% households contribute to open defecation while it is 8.8% in urban areas. In rural India 95.6% households use the toilets available in their homes, whereas, it is 98.7% in urban areas (Ministry of Statistics & Programme Implementation, 2016). Poor water, sanitation and hygiene have been a major problem since long time. Various studies have shown the evidence of effects of WASH practices on child's linear growth and nutrition. In India since there is a large scale practice of open defecation, there are large number of stunted children. Government of India started many programs from time to time to improve water, sanitation and hygiene. The first rural sanitation program in India was introduced in the year 1954 as a part of the First Five Year Plan of the Government of India. Later in 1986, Central Rural Sanitation Program was introduced. The introduction of this program and its up gradation to Total Sanitation Campaign (TSC) in 1999, increased the coverage of household toilets in rural areas from 1% in 1981 (Census 1981) to 22% in 2001 (Census 2001) and 32.7% in 2011 (Census 2011). Later on the *Nirmal Bharat Abhiyan* (NBA) was introduced in 2012 which aimed to accelerate sanitation coverage in rural areas to achieve the vision of '*Nirmal*' Bharat by 2022 with all Village Panchayats in the country attaining '*Nirmal*' status.

### Swachh Bharat Abhiyan

The *Swachh Bharat Abhiyan* is the latest national campaign on sanitation. It was launched on 2nd October 2014 by government of India under the leadership of Honorable Prime Minister. The program aims to ensure access to sanitation facilities (including toilets, solid and liquid waste disposal systems and village cleanliness) and safe and adequate drinking water supply to every person thus achieving universal sanitation coverage by 2019, as a fitting tribute to 150<sup>th</sup> birth anniversary of Mahatma Gandhi (Ministry of Statistics & Programme Implementation, 2016). *Nirmal Bharat Abhiyan* has been incorporated under *Swachh Bharat Abhiyan* which is having two sub-Missions - *Swachh Bharat Mission (Gramin)* and *Swachh Bharat Mission (Urban)*. Also there are two complementary programs associated with it named '*Kayakalp*' and '*Swachh Bharat Swachh Vidyalaya*' mission. The two missions are under the Union Ministry of Drinking Water and Sanitation (for Rural) and the Union Ministry of Urban Development (for Urban). *Kayakalp* is under the Ministry of Health and Family Welfare and *Swachh Bharat Swachh Vidyalaya* is under Human Resource and Development Ministry.

### Swachh Bharat mission – Urban

The overall objective of this mission is to provide solutions for complete sanitation to 4041 statutory towns by eliminating

open defecation, putting an end to manual scavenging and managing the municipal waste by using modern and scientific techniques. Breaking the age old behaviour of defecating in the open by providing household, community and public toilets, along with sensitizing people on the importance of sanitation and toilet usage through information, education and communication (IEC) campaigns are the core components of the Mission. Strategies of mission consist of identifying all manual scavengers in urban areas and to upgrade insanitary toilets to sanitary toilets linked to their employment, and to adequately rehabilitate the manual scavengers. This mission has been allotted adequate funds through Government of India and the respective States. The funds are proposed to be generated through various sources like Private sector participation, beneficiary share, user charges, land leveraging, innovative revenue streams, Swachh Bharat Kosh and Corporate Social Responsibility.

### **Swachh Bharat mission – Gramin (rural)**

The objective of the Swachh Bharat Mission-Rural is to bring an overall improvement in the general quality of rural life by promoting cleanliness, hygiene and eliminating open defecation. Motivating communities and Panchayati Raj Institutions to adopt sustainable sanitation practices and facilities, community managed sanitation systems focusing on scientific Solid & Liquid waste management are also parts of its objective. Creating a genuine demand for sustainable sanitation solutions and changing attitudes and behaviors are also its essential features. Implementation of Swachh Bharat Mission Rural is proposed with 'District' as the basic unit, with the goal of creating open defecation free Gram Panchayats. The District Collectors/Magistrates/CEOs of Zilla Parishads are expected to lead the Mission themselves, so as to facilitate district wide planning of the Mission and optimum utilization of resources. An army of 'foot soldiers' or 'Swachhata Doots' on sanitation is to be developed and activated using existing arrangements like Panchayati Raj Institutions, Co-operatives, ASHAs, anganwadi workers, women groups, community based organisations, self helpgroups, water linemen/pump operator etc. who are already working in the villages (Ministry of Drinking Water and Sanitation, 2014).

### **Swachh Bharat Swachh Vidyalaya**

Children are fast learners and adopt behaviours more easily than adults. Children are also effective role models. They may question existing practices in their households and choose to demonstrate good hygiene. What they learn at school is likely to be passed on to their peers and siblings, and to their own children when they become parents. Thus they can become an agent for change in the community. Keeping this in mind government of India started a national campaign named Swachh Bharat: Swachh Vidyalaya, 'Clean India: Clean Schools' in 2014. A key feature of the campaign is to ensure that every school in India has a set of functioning and well maintained water, sanitation and hygiene facilities with separate toilet for girls and boys in all schools. Water, sanitation and hygiene in schools refers to a combination of technical and human development components that are necessary to produce a healthy school environment and to develop or support appropriate health and hygiene behaviours. The technical components include drinking water, hand washing, toilet and soap facilities in the school for use by children and teachers. It's another key feature is operation and

maintenance of these facilities. The human development components include activities that promote conditions within the school and the practices of children that help to prevent water, hygiene and sanitation related diseases and thus decreasing the school dropout rate specially for girls (Ministry of Human Development and Resource).

### **Kayakalp Initiative**

Ministry of Health And Family Welfare, Government of India launched this initiative on 15th of May, 2015 to promote cleanliness and enhance the quality of public health facilities. Under Kayakalp initiative, Swachhta guidelines have been issued for all healthcare facilities. Its objectives were - to promote cleanliness, hygiene and infection control practices in public health care facilities, to incentivize and recognize such public healthcare facilities those adhering to standard protocols of cleanliness and infection control, to inculcate a ongoing assessment and peer review of performance related to hygiene, cleanliness and sanitation, and to create and share sustainable practices related to improved cleanliness in public health facilities linked to positive health outcomes. Under kayakalp, awards are given to - best two (rank 1<sup>st</sup> 50 lakh, rank 2<sup>nd</sup> 20 lakh) district hospitals in each state, best two (rank 1<sup>st</sup> 15 lakh, rank 2<sup>nd</sup> 10 lakh) community health centres/sub district hospitals and one primary health centre (2 lakh) in every district. The prerequisites for applying for an award are - cleanliness and infection control committee of the health facility, periodic internal assessment/peer assessment done by the healthcare facility based on a defined criteria, and achievement of 70% score in the criteria during the peer assessment process (National health Portal India).

### **Strategy**

The focus of the Strategy is to move towards a 'Swachh Bharat' (Clean India) by providing flexibility to State Governments. Since Sanitation is a state subject, the states have been given the freedom to design their own frameworks and use the incentives available, keeping in mind the overall objectives to decide on their implementation policy and mechanisms, taking into account State specific requirements. Under this mission all states are supposed to submit a brief concept note on state sanitation strategy and the Centre is expected to complement the efforts of the State Governments. Information about the role and administrative structure at the Panchayat and block level, role of community based organizations in addition to microfinance options for toilet construction, rural sanitary marts and community sanitary complexes are incorporated in the mission. Revolving funds are proposed to be made available to self help groups (SHGs) and societies at the district level through which loans will be disbursed to members for constructing toilets. In order to strengthen the implementation mechanism, technical experts on a wide variety of subjects such as IEC, Behaviour Change Communication (BCC) and capacity building are to be available at all levels.

### **Swachh Bharat Mission in action**

As states were given flexibility to use the resources according to their comfort level keeping in mind the overall objective of attaining the complete sanitation coverage, many states are using innovative ideas to complete the mission target. Many states took motivating steps to complete target on or before time. The panchayat coordinating officer in a district of

Madhya Pradesh announced the incentive of sponsoring a trip to Goa for 3 persons each (among sarpanchs, panchayat secretaries and employment assistants) from 3 gram panchayats that complete the task of building toilets on time and the fastest, to push for Swachh Bharat Mission (Mitra, 2017). Anita Narre a woman from Madhya Pradesh was honoured by President of India who deserted her husband immediately after her marriage as her in-laws did not have a toilet at home. Sulabh International awarded her with cash prize of Rs 7 lakh and also district administration made a sanitary toilet in her in-laws' place. A movie was also made named Toilet ek Premkatha based on open defecation after taking inspiration from her (Bhargav, 2017). Colour coded bins were distributed (2 bins per household), so that waste is segregated at source itself.

The recommended colors are Green bin for wet waste (biodegradables), Blue bin for dry waste (non-biodegradable and other kinds of waste). Massive public awareness campaigns on sanitation and establishing its link to public health, hygiene and the environment through various means including -radio, social media, documentaries, plays, workshops, etc were initiated. For example, some areas in Rajasthan and Ranchi used a concept of making and pasting posters at public places showing nature's call in open can be just about as harmful as being shot by a dacoit- poster showed a movie actor telling that his wounds are caused by the evils of open defecation (Saini, 2017). Various new and scientific methods for waste disposal are given priorities. E-dust bins are proposed to be used which will automatically tweet its status to Municipal Corporation when it will be filled. These dust bins will be having their own code, GPS and a chip. If any person tries to damage it, the sensor will make the alarm to ring on its own and if anyone tries to take it the GPS will tell its location (Bhopal mein bana smart dustbin, 2017). Some radical steps were also taken by few states in order to complete their target on time.

### **Jaipur and Ajmer**

The drive initiated by the Karauli district administration involves anganwadi workers, ANMs, teachers and stake holders to promote swachh bharat mission. They start patrolling fields and open areas of village since 5 AM every day, armed with a whistle, to shame the open defecators. The teachers have to take photos which act as a proof of their presence in the field, which have to be sent to the principals who then forward them to SDM and DC (Mukharjee, 2017).

### **Indore**

The names of the persons who went for open defecation were announced from temple loudspeaker (Dasgupta, 2017).

### **Maharashtra**

In Solapur, the administration resorted to public shaming to curb ODF. Those failing to use toilet would find their name on a list in the town square or a local paper. For repeat offenders, a musical band will reach their home performing musical activity all along the way highlighting the open defecation of the person or he could be locked up for 2 hrs by the police (Dasgupta, 2017). In Usmanabad district, 40 people were fined Rs 200/- each and in addition they were required to clean the nearby school area with broom for defecating in open (Bhum, 2017).

### **Chhatisgarh**

Balod district's Kapasi village- the first ODF village in Balog had installed CCTV to stop people from defecating in open (Dasgupta, 2017).

### **Journeyso far**

In little over 3 years, since the inception of the Mission driving clean India, a lot has been achieved. Under the Swachh Bharat Abhiyan, total sanitation coverage in India has increased from 41.86% in October 2014 to 74.15% by Dec 2017. Till now the government has built around 5.3 crore toilets and the aim is to roughly construct 11.1 crore toilets by 2019. Nine states of India – Kerala, Sikkim, Himachal Pradesh, Haryana, Gujarat, Arunachal Pradesh, Meghalaya Uttrakhan and Chhatisgarh have become Open Defecation Free (ODF). Further break down of the ODF number reveals that around 2.7 lakh villages and 230 districts are now open defecation free. India's 7 Union territories have targeted to be completely Open Defecation Free by Mar 2018. Out of these, two i.e. Chandigarh and Daman and Diu have already achieved ODF status (Ministry of Urban Development, 2014).

### **Swachh Survekshan**

#### **2016**

The "Swachh Survekshan" was launched in January 2016 to assess the sanitation and solid waste management status in 73 major cities in India (comprising 40% of India's total urban population) - including 53 cities with a population of above 10 lakhs each, and state capitals. This was the first survey since the launch of Swachh Bharat Mission in October 2014. The survey evaluated the cities along various parameters which included construction of individual household toilets, community toilets, door-to-door collection of garbage, solid waste management and its treatment. The survey had three-pronged strategy for data collection i.e from the Municipal Bodies, by direct observation across 42 locations in each city, and by feedback from one lakh citizens on their perception of cleanliness in their city. Over 3000 locations were assessed in which 1168 public and community toilets and 876 residential toilets were visited. The results were-Mysuru ranked first as the cleanest city followed by Chandigarh, Trichy, Delhi and Vishakhapatnam, whereas, Lucknow was the filthiest city in the survey (Ministry of Housing and Urban Affairs).

#### **2017**

'Swachh Sarvekshan' in 2017 was conducted by the Urban development ministry across 434 cities in Jan and Feb 2017 under swachh bharat mission. It aimed to foster a spirit of competition amongst the cities and offered a comprehensive assessment of their sanitation status. In survey cities were evaluated on five parameters: 1) waste collection and transport-40%, 2) solid waste managemengt-20%, 3) construction of toilets-30%, 4) sanitation strategies-5% and 5) behavior change communication- 5%. Rankings were based on 3 main areas i.e Collection of data from and interactions with Municipal Bodies- 45%, Collection of data from Direct Observation-25% and from citizens'feedback-30%. In all, 3.7 million citizens participated in the survey and 12000 locations and 2600 public toilets were observed. In this survey, Indore ranked first as the cleanest city followed by Bhopal,

Vishakhapatnam, Surat and Mysuru. Gonda in UP ranked the filthiest city in the survey. Out of ten dirtiest cities five were in UP, two each in Bihar and Punjab and one in Maharashtra. Gujarat had twelve and Madhya Pradesh had eleven clean cities among the top fifty. UP had maximum of twenty five cities among the bottom fifty. None of the cities from Bihar, Rajasthan, Haryana and Punjab were able to make it to top fifty list. Karnal was the cleanest city in North India (Ministry of Housing and Urban Affairs).

## 2018

The Ministry of Housing and Urban Affairs is conducting its third survey "Swachh Survekshan-2018" from January-March 2018 covering all 4041 statutory towns in India. The objective of the survey is to encourage citizen participation and foster a spirit of healthy competition among towns and cities to improve their service delivery to citizens. For better quality of the survey on such a large-scale i.e 4041 cities, methodology and parameters have been advanced along with systematic document verification and validation measures. There has been slight change in weightage for ranking of the cities: weight age for 1) Collection of data from and interactions with Municipal Bodies has been decreased to 35% which was 45% in last survey, 2) Collection of data from Direct Observation has been increased to 30% which was 25% last time, and this time 3) Weightage for citizen feedback has been increased by 5% making it 35%. They are asked to give their feedback by giving a miss call at 1969, logging on to [www.swachhsurvekshan2018.org](http://www.swachhsurvekshan2018.org) or via the Swachhta App. The survey indicators/questionnaire will carry total 4000 marks. This time negative marking has also been included. For 'Swachh Survekshan-2018' assessments, the Ministry of Urban Development has revised the weightage for the overall assessment and components of Swachh Bharat Mission. These modifications are: 1) waste collection and transport-30%, 2) solid waste management-25%, 3) construction of toilets-30%, 4) sanitation strategies-5% and 5) behavior change communication- 5% and one more parameter has been introduced i.e. 6) Innovations used for attaining sanitation- 5% (Ministry of Housing and Urban Affairs).

Many Indian states are already following the guidelines of the Swachh Bharat Swachh Vidyalaya Mission. Rajasthan has made special financial provision for water, sanitation and hygiene facilities in schools and has also set indicators for monitoring the proper utilization of these resources. More than 90% of the schools in Rajasthan have separate toilets for boys and girls, drinking water facilities with water for hand washing and toilet use. Likewise other states including Madhya Pradesh, Gujarat, Uttar Pradesh, Andhra Pradesh has also taken up this step. In Assam, from September 7, 2012 all schools are instructed by state government to dedicate time for hand washing with soap before mid-day meal and also after defecation. In West Bengal the Paschim Bengal SarvaShiksha Mission (PBSSM) organizes an annual week long hygiene promotion campaign, the Nirmal Vidyalaya Saptah to coincide with state's school hygiene day on World Health Day, April 7 each year (Ministry of Human Development and Resource).

## Conclusion

Three years have gone so far since the mission was launched. 4.5 crore new toilets have been constructed in race of achieving the targets, however, numbers are about toilets built,

not about toilets being used. It has been seen that despite having toilet facility, all people are not using them. Even if a toilet is used, it is being used only at certain times of the day, by certain family members, or in particular seasons. The Swachhta Status Report 2017 states that only 95.6% of the individuals in rural households who were having sanitary toilet at their house were actually using them. This could be because of many social, religious and personal reasons. In rural India people were going out in open for defecation for many years and now despite having facility they are reluctant to use them. This may be because they are finding it difficult to accept the change as this practice has been incorporated in their habit since long time. In some areas it is because of their religious sentiments as people consider it impious to defecate in house where they keep their religious idols also. This rigid mentality is difficult to change in adulthood without proper education. Sanitation and hygiene practices should be incorporated from childhood itself as this is the habit forming age for everyone. Health education also plays a vital role in it. People should be made aware of the risks and hazards of poor sanitation through health education so that they become more acceptable towards it and will also incorporate it in their habits and further promote it in their community. Motivational steps should be preferred over radical steps because radical steps can lead to development of anger and frustration among people in the community which may create barrier in achieving the set targets.

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