Review

Cleaning Bharat (India): A Scoping Review of Perceptions Regarding How Swachh Bharat Can Continue to Improve Hygiene Across the Nation

Karan Varshney *, Pavan Shet, Mariyah Hoosenally

Posted Date: 20 December 2024

doi: 10.20944/preprints202412.1733.v1

Keywords: Swachh Bharat Mission; India; hygiene; sanitation; qualitative; lived experience

Review

Cleaning Bharat (India): A Scoping Review of Perceptions Regarding How Swachh Bharat Can Continue to Improve Hygiene Across the Nation

Karan Varshney [1,2,*], Pavan Shet [2] and Mariyah Hoosenally [3]

[1] School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, Australia
[2] School of Medicine, Deakin University, Geelong, Victoria, Australia
[3] Department of Medicine, Cairns Base Hospital, Queensland Health, Queensland, Australia
* Correspondence: karan.varshney@monash.edu

Abstract: The spread of diarrheal disease is a major public health problem, and a lack of proper sanitation is an important contributor to this. In 2014, Swachh Bharat Mission (SBM) was initiated by the Government of Bharat (India) to improve sanitation across the entirety of the country; SBM has received worldwide praise for its success, and it is now being expanded further. For the purposes of guiding the ongoing implementation of SBM, and to determine where it has or has not been successful, the objective of this scoping review was to determine the perceptions, knowledge, and attitudes of individuals regarding SBM. After screening of 5454 research articles across seven databases, nine total articles were eligible for inclusion in this review. Numerous key themes emerged: many chose to greatly praise SBM for its past successes, individuals felt that mass media should continue to be used to raise awareness, that mindsets and a lack of awareness continue to serve as barriers to change, and that addressing inadequate waste disposal and waste segregation should be a very high priority to ensure cleanliness in Bharat. The findings of this review can guide policymakers, government workers, non-governmental organizations, and researchers in ensuring that the continual development of SBM in its second phase and beyond successfully achieve its aims.

Keywords: Swachh Bharat Mission; India; hygiene; sanitation; qualitative; lived experience

1. Introduction

1.1. Impacts and Scale of Poor Sanitation

Diarrheal disease is a major cause of death worldwide, and, according to the World Health Organization (WHO), it was the cause of approximately 370,000 deaths of children and is hence the second leading cause of death amongst children who are less than the age of five years old [1]. Worldwide, a lack of adequate sanitation is a major contributor to the transmission of diarrheal diseases such as cholera, dysentery, typhoid, polio, and intestinal worm infections [2]. As well, a lack of adequate sanitation has been described as an exacerbator of other major public health problems, such as antimicrobial resistance, and childhood stunting [2]. This is of salience for the country of Bharat (India) which, according to 2021 data, has rates of childhood stunting as high as 35.5% for children under the age of five [3]. It has been estimated that approximately 1.5 billion of the world's population currently lives in settings where they do not have access to basic forms of sanitation such as latrines and toilets [2].

1.2. Initiation of Swachh Bharat Mission

For decades, Bharat had been a nation for which a lack of access to adequate sanitation for the populace has been an enormous problem. To address this, in 2014, the national government initiated a nationwide campaign to address the issue of a lack of sanitation; this campaign was named as *Swachh Bharat Mission (SBM)* (also referred to as *Swachh Bharat, Swachh Bharat Abhiyan, Clean India,*

 doi:10.20944/preprints202412.1733.v1

and Clean India Campaign). SBM has been described as the largest sanitation initiative in the world and had the ambitious goal of ensuring that Bharat would be free of open defecation by October 2019 [4]. The initiative has involved collaboration across government at the state and central levels, with support being provided by other partners. While development of toilets and latrines was amongst the utmost priorities of SBM, other important aspects of this initiative have included creating social and behavioural change campaigns, disseminating communication and education materials, providing messaging through media sources (such as social media), and ensuring that there is role-modelling, peer monitoring and support at the community level [5].

1.3. Benefits of Swachh Bharat Mission

The reported successes of SBM have been substantial; the mission has been noted to have helped approximately 100 million rural households in gaining access to toilets, which translates to 500 million residents across approximately 630,000 villages in the nation [5]. This has all led to major economic, environmental, and health benefits across the nation of Bharat.

Regarding financial benefits, it has been estimated that the economic savings of SBM have been approximately 4.9 trillion Indian Rupees (INR) (approximately 76 billion US dollars) [6]. Every level of society has seen this economic benefit, with financial returns on household spending over a decade being estimated at 1.7 times the cost, returns to society on overall spending over a decade being 4.3 times the cost, the poorest in society having a financial return of 2.6 times the cost, and the societal benefit being 5.7 times the cost [7]. A differing analysis showed that the maximum economic benefits, compared to other groups, occurred amongst the poorest members of society [8].

The full extent of the health benefits of SBM are not yet fully known – however, predictions by the WHO in 2018 indicated that as many as 300,000 deaths may have been averted from causes such as diarrhea and protein-energy malnutrition; as well, it was predicated that 14 million disability-adjusted life years (DALYs) have been estimated to avoided and that the overall incidence of diarrheal diseases is estimated to have declined substantially [9]. Aside from existing predictions, there is also existing evidence demonstrating the health benefits of SBM. It has been shown that the annual number of acute diarrheal disease outbreaks have steadily declined since the initiation of SBM [10], including those amongst young children [11], and SBM's successes have also led to overall improvements in hospital function with gains in parameters such as infection control, support services, and hygiene promotion [12]. Based on the successes that SBM has shown overall, numerous other nations, such as Nigeria, Indonesia, and Ethiopia, have been influenced to develop ongoing policies with the usage of SBM as a guide [5].

1.4. Next Phase for Swachh Bharat Mission

With the high levels of success that have been seen with SBM, the national government of Bharat has begun the second phase of SBM, which is projected to continue until at least 2025. This second phase entails ensuring that areas which have obtained Open Defecation Free (ODF) status not only maintain this status, but also implement management systems for solid and liquid waste [13]. This includes ensuring improvements in waste disposal for biodegradable wastes including wastes from human, food, agricultural, and cattle sources [14]. As well, there is a goal to improve practices in adequately disposing of non-biodegradable wastes such as e-wastes, metals, and plastics. Lastly, raising awareness and managing menstrual waste is a priority for the new phase [14]. Therefore, the overall aim of this mission has been to provide a shifted focus toward also ensuring that waste is adequately disposed of, thereby better ensuring that sanitation, and overall cleanliness, of the nation improves.

1.5. Persisting Issues and Challenges

In spite of the considerable successes that have been shown and demonstrated with SBM thus far, a number of significant barriers to progress have persisted, and which have impaired progress. While access to sanitary infrastructure (such as toilets and latrines) has greatly improved in the

 doi:10.20944/preprints202412.1733.v1

country, it has been described across a number of studies that individual attitudes towards cleanlieness and willingness to using toilets/latrines remains a challenge [15–17]. A number of other constraints and barriers (resulting in open defecation and improper waste disposal) have also been identified in previous studies, and these include financial problems, a lack of adequate water supply, mistrust of the governnment, cultural beliefes, personal preferences, and a lack of overall awareness [15–19]. As a result, all of Bharat is not yet ODF. Furthermore, these problems run the risk of negatively impacting the long-term impacts of the second phase of SBM.

1.6. Persisting Issues and Challenges

Despite all the progress made with SBM thus far, there is a clear need for further efforts, and adjustments, to be made to attain the massive goals of the nation being ODF. Furthermore, clearer guidance is needed to ensure the smooth development and progress of SBM Phase II.

To guide, and improve, Swachh Bharat for the present and future, and to help create policies that can have persisting influence for upcoming years and decades, it is critical that the lived experiences of people of Bharat be considered by policymakers and those who seek to contribute to SBM's implementation. However, the qualitative research which has been conducted regarding individual perceptions, attitudes, and knowledge regarding SBM has yet to be adequately synthesized. These insights, when properly considered and accounted for, may provide valuable insights as to how SBM can be more effectively implemented so that its overall gains can be attained.

1.7. Research Aim

In considerations of the gaps in understanding regarding the lived experiences and feedback regarding SBM, the goal of this work is to provide a scoping review of qualitative studies that analyse the knowledge, attitudes, and perceptions of SBM in order to provide recommendations as to how SBM can be improved in achieving its short and long term aims.

2. Materials and Methods

3.1. Search Terms

This scoping review followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines [18,19]. For this review, systematic searches were conducted in a number of databases in order to retrieve as many relevant articles as possible. Search terms were intended to be as broad as possible, with the following terms being used across differing databases: ("swachh bharat" OR "clean india") AND ("qualitative" OR "mixed-methods"). These searches – which were all completed on February 19, 2024 - were conducted in a total of seven different databases: Google Scholar, OVID Medline, Scopus, Web of Science, EBSCO Academic Search Complete, Embase, and APA PsycInfo. Citation searches of reference lists for papers searched were also inspected to find any additional, potentially relevant articles.

3.2. Criteria for Inclusion

The following were the inclusion for criteria in this review: (1) Findings must be from 2014 or later (based on this being the year with which SBM was initiated) (2) Must have been either a qualitative study or a mixed-methods study (3) Must include qualitative data pertaining to SBM which encompass at least one of the following: knowledge, attitudes and/or perspectives (4) Must be full-text, peer-reviewed research that has been published. Studies were not eligible for inclusion if they were not original research (such as reviews, commentaries, or editorials), and if they were conference abstracts/presentations.

3.3. Screening Process

After searches were conducted and articles were retrieved from the seven databases, screening for studies began. The screening process for this review began with removal of duplicate articles

 doi:10.20944/preprints202412.1733.v1

retrieved across searches. Once the duplicates had been removed, studies were screened by title and abstract to determine their relevance for the review (with irrelevant studies being removed). Once this had been completed, studies were next screened by the entirety of their texts to determine their overall relevance for the review. Once this had been completed, the screening process for this review had been completed.

3.4. Extraction of Data

Data was consistently extracted for the studies that were deemed to be worthy of inclusion in this review. To provide an overall understanding of each study and its context, data on study characteristics was first extracted. The following data on study characteristics was extracted: authors and year, source of data (for example, interviews), study objectives, study setting/sample size, and data analyses that were conducted in the study. Next, key findings for studies pertaining to SBM were extracted from included studies. These findings were summarized for each study. It is noteworthy that this summary of key findings were focused on those related to SBM, as a number of studies in this review included data that did not directly or indirectly pertain to SBM.

3.5. Synthesis and Presentation of Data

Data pertaining to study characteristics was presented in tabular format. Patterns and differences were noted in the text via a narrative synthesis. Similarly, key findings pertaining to SBM were also presented in a tabular format. Again, patterns and differences were denoted in the text, along with themes of findings being discussed in further detail. After this had been completed, a summary table was presented to describe the most relevant aspects of this review as per the findings of past studies, and the implications of these findings for policymakers, those working on the ground, and those who will be conducting future research on the topic of SBM.

3. Results

3.1. Selection of Articles

Searches produced a total of 5454 articles. The following total results were found from each respective database:

- Google Scholar: 3329 results.
- OVID Medline: 1889 results.
- Scopus: 217 results.
- EBSCO Academic Search Complete: 10 results.
- Web of Science: 4 results.
- PsycInfo: 2 results.
- Embase: 2 results.
- Citation search of reference lists: 1 result.

Of the 5454 results, 1076 duplicates were identified and removed. Therefore, a total of 4378 results were screened by title and abstract. Of these, 4278 were deemed to not be eligible for inclusion in the review. 100 studies had the entirety of their text analyzed. Of these 100 studies, nine studies [20–28] were ultimately determined to be eligible for inclusion in this review. The reasons for exclusion of articles were as follows: did not include qualitative data pertaining to SBM (60 articles), had the wrong study design (21 results), the full text was not available (9 results), and were conference presentations/abstracts only (3 results). A full depiction of the screening process [18] is shown in **Figure 1.**

 doi:10.20944/preprints202412.1733.v1

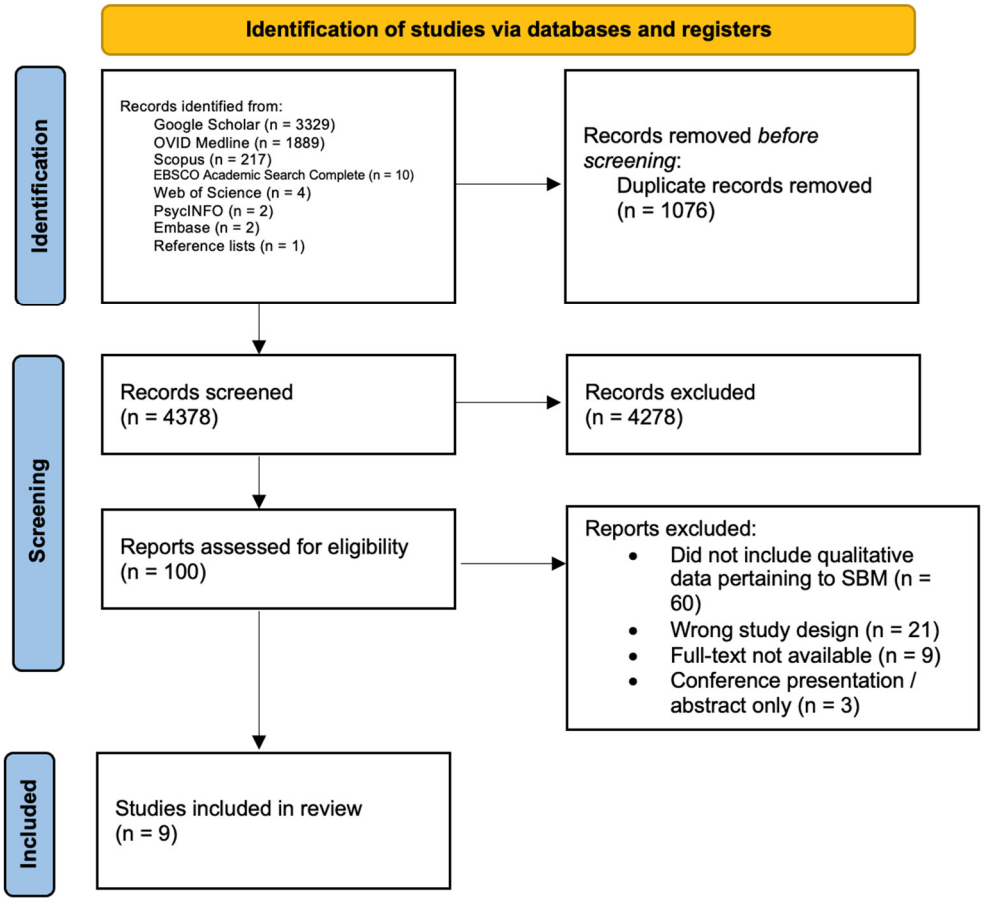

Figure 1. Diagram of screening process as per PRISMA guidelines [18].

3.2. Study Characteristics

Characteristics of all nine studies included in this review are shown in **Table 1.** Studies were conducted between 2018 and 2023. The most common sources of data for included studies were interviews (five studies) and focus group discussions (three studies), with one study utilizing text for analysing (specifically, student essays). Study objectives tended to vary across studies; the most common research aims were to focus on aspects of "cleanliness", to analyse attitudes about the effectiveness of waste disposal, and specifically to gauge perceptions of the successes and shortcomings of SBM. Study sample sizes ranged from 17 to 1000. Populations under study were medical undegraduats in Northern Bharat (100 individuals), government workers at local, state and national levels in four different states (17 individuals), urban populations in Tripura (24 individuals), those in a rural village of Southern Punjab (77 individuals), adults residing in Mysore (28 individuals), adults residing in rural Bihar (21 individuals), those residing in Gandhinagar (1000 individuals), waste loaders and street workers along with informants in waste operations (22 individuals), and slum and non-slum dewllers in Ujjain Municipal Corporation in Madhya Pradesh (78 individuals). While most studies did not specify weaknesses/limitations, four studies that did specify their limitations denoted issues such as: a lack of representativeness across states, not accounting for religious influence, a focus solely on specific factors (such as sanitation), only discussing with populations at a single point in time, and not being able to account for seasonal variation in conditions.

 doi:10.20944/preprints202412.1733.v1

Table 1. Characteristics of studies included in this review.

Authors (year)	Source of data	Objectives	Study setting and sample size	Data analyses	Study limitations
Nath, Yadav & Kumari (2018) [20]	Student essays	Objectives were two-fold: 1) to determine perceptions of components of cleanliness for Swachh Bharat Abhiyaan 2) to determine perceptions of how students can contribute towards cleanliness.	Medical undergraduates at a Medical College in Northern Bharat. Sample size = 100.	Essay analysed, with students being contact to clarify ambiguous aspects of responses. Deductive coding, with overlapping codes extracted. Four themes generated: 1) Cleanliness Practices 2) Behaviour Change Communication 3) Behaviour Change Interventions 4) Behaviour Change Legislations.	Unspecified.
Curtis (2019) [21]	Structured interviews	To describe how the successes of Swachh Bharat Mission in rural Bharat, from the perspective of government workers in order to provide guidance for other nations wishing to emulate these successes.	Across four states, Swachh Bharat Mission government workers at the district, state, and national levels. Sample size = 17.	Framework analyses conducted with the following steps: 1) familiarisation 2) identification of a thematic framework 3) indexing 4) charting 5) interpretation and mapping. Drawing upon the theory of change perspective of Behaviour Centred Design.	-Courtesy bias where there was a nearly completely positive response by interviewees. -Need for study from representatives from other states. -Study focus was solely on sanitation in rural households across Bharat, no focus on urban settings.
Datta et al. (2020) [22]	Cross-sectional survey and focus group discussions	Objectives were twofold: 1) to determine knowledge and practices relating to hygiene, sanitation, and solid waste disposal amongst individuals residing in Agartala city 2) to analyse factors impacting knowledge and practices.	*For qualitative component:* Three focus group discussions occurring urban population in Agartala Municipal Corporation in Tripura. Sample size = 24.	Pre-selected questions used for focus groups, with an experienced facilitator guiding discussions. Transcripts written, and thereafter classified under codes/criteria and then presented in tabular format.	Unspecified.
Paul et al. (2021) [23]	Focus groups and cross-sectional survey	Four primary objectives for this study: 1) Provide health-related awareness education. 2) Assess community attitudes towards types of health education 3) Provide service relating to waste management to community members. 4) Assess skills of medical students in conducting qualitative research.	*For qualitative component:* 10 focus groups which included individuals of different ages across groups (from 13-19 to 65-72 years). Sample size = 77. Two medical students led each focus group. Occurred in a Bucho kalan village of Nathana block of Bathina district in Southern Punjab in June 2019, for six days.	*For qualitative component:* Focus groups focused on Swachh Bharat and its associated activities. Areas of discussion were for the following themes: 1) Waste management 2) Swachh Bharat and its related activities 3) Community knowledge regarding hygiene and sanitation.	Unspecified.
Jack, Ananthar	Semi-structure	To determine relations between infrastructure	Adults interviewed in Mysore regarding	Four key themes were identified and expanded	Unspecified.

 doi:10.20944/preprints202412.1733.v1

aman & Browne (2022) [24]	d interviews and small group interviews.	access, social mobility and usage of resources to cleanliness in Mysore.	cleanliness, with both semi-structured interviews (25), and small group interviews (4). Sample size = 28. Mean age: 37 (range: 21-73).	upon based on findings of interviews. These were: 1) cleanliness infrastructure 2) Reinforcement of existing hierarchies 3) Positive perceptions of cleanliness 4) Difficulties of marginalised groups.	
Khandare & Salve (2022) [25]	In-depth interviews and cross-sectional survey.	To utilise Critical Caste Theory to determine vulnerabilities of municipality workers in Mumbai relating to disposal of waste.	*For qualitative component:* Interviewing workers who have had more than 5 years of experience as waste loaders and street sweepers at the municipal corporation of Mumbai, as well as key informants in waste management operations. Sample size = 22	Critical Caste Theory was utilised to guide analyses of interviews; findings broken down into themes: risk of ghettoization, determinants of health such as substance use, morbidity, causes of death. Also focused on Swachh Bharat Mission, indebtedness, voices for freedom.	-Study utilised a cross-sectional design. -May have been seasonal variations that were not accounted for in this study.
Sahoo et al. (2022) [26]	Focus group discussions and interviews.	This study aimed to explore community members attitudes, capability, and opportunity to segregate household waste.	This study involved conducting 10 focus group discussions with inhabitants of Ujjain Municipal Corporation in Madhya Pradesh. Six focus groups with slum dwellers. Four with non-slum dwellers. There were also eight individual interviews to complement focus groups. Sample size = 78. Mean age = 41 years. 35 individuals from slums, 43 from non-slums; 47 females and 31 males.	Focus group discussions featured the following content: 1) existing practice on household waste sorting and segregation 2) opportunity 3) ability 4) motivation. MOAB theory and framework used to propose behaviour changes.	Unspecified.
Dhami et al. (2020) [27]	Structured interviews	To understand the attitudes and motivations of Gandhinagar residents of the SBA and to determine key elements for the future of cleanliness drives regarding perceptions and attitudes.	Sample size = 1000 512 males and 394 females (out of which 94 did not respond to certain sections) across a variety of ages, gender, family type, and educational qualifications. All above 13 years old and residing in Gandhinagar, Gujarat	Answers were divided into three categories of perception: enthusiastic acceptance, acceptance with reservation, and complete rejection. Afterwards, an analysis group was determined to formulate agreed upon conclusions	Does not account for religious perceptions which greatly influence overall views within India. Study is limited to one city when SBA is nation wide
Jain et al. (2020) [28]	Semi-structured interviews and focus group discussions	To evaluate perspectives on open defecation and latrine use, and the social, economical and political for these perspectives in rural Bihar to ultimately design	Sample size = 21 Semi-structured interviews with seven men and six women with variation in age (excluding minors under 18), gender, caste, household	Interviews were digitally recorded, translated and transcribed to English with two translators. Themes were identified and organised from the data to develop codes which were discussed amongst researchers to refine codes and group them into	Sample size was a small number of participants within one district in a low-income state, not representative of all of India with diverse cultural,

 doi:10.20944/preprints202412.1733.v1

		better sanitation systems	latrine ownership, occupation, and education. Also, two focused group discussions with four men each and for this group there was demographic variation but homogeneity with regards to caste, gender, and occupation. All were from rural Bihar	broader thematic categories via the qualitative data analysis software ATLAS.ti (version 8.3.1) with researchers then coming together again to ensure intercoder reliability.	social, economic, and political diversity, and therefore are unable to make generalizable conclusions or policy recommendations. Study did not explore whether SBA-G has successfully inspired positive change around sanitation. Study did not include focus groups with women.

3.2. Key Findings Pertaining to SBM

Findings, by study, are shown in **Table 2.** Studies tend to show notable variation in terms of public perceptions of SBM. These key findings can be broken down into five main themes: (1) Successes of SBM (2) The role of media (3) Awareness, mindsets, and education (4) Waste disposal issues (5) General/other SBM issues

Table 2. Key findings across studies included in this review.

Authors (year)	Study population and sample size	Summary of key findings regarding attitudes, knowledge, and perceptions of Swachh Bharat Mission
Curtis (2019) [20]	17 Government workers involved in Swachh Bharat Mission working at the district, state and national level.	Overwhelmingly positive responses for the outcomes and overall aims of Swachh Bharat Mission. Stated that there were massive efforts by the political leaders, which paid off greatly. Many stating that the successes of this initiative were extraordinary, with changes occurring in significant ways in the following domains: breaking administrative norms, involvement of mass media, disrupting undesirable social norms, on-the-ground work by government workers, utilisation of technology, rapid action by bureaucrats, provision of appropriate support to those who wanted to make a difference, psychological changes with the mission's success, having motivated workers, successfully changing peoples' behaviours, ongoing efforts to build on successes.
Nath, Yadav & Kumari (2018) [21]	100 medical undergraduates at a Medical College in Northern Bharat.	Participants specified that initiatives should begin at a ground level, at home; community involvement is necessary for change. More societal focus should be on respecting labours in cleaning garbage, but everyone should be involved in such efforts. Emphasis should also be placed on ensuring that waste goes into dustbins, and less usages of plastic. There is a need to create awareness amongst both kids and youth regarding cleaning Bharat, and that can occur with advertisements, movies, and school workshops and competitions to increase engagement. Can have special days/weekends/times of month focused on this (e.g., first working day of each month and government holidays. focused to cleaning government holidays). Other initiatives/efforts that should occur on a larger scale, related to ongoing efforts: tree planting, education for the community (such as by mass media sources), discouragement of open defecation, reforming syllabi in teaching institutions, having more awareness campaigns, ensuring availability of alternative and efficient energy

 doi:10.20944/preprints202412.1733.v1

		sources, increasing availability of sanitation and waste disposal efforts, cleaning rivers and riverbeds, having collaboration across industries (such as health, education, and irrigation departments), and ensuring the development of clearer legislation to ensure and improve cleanliness.
Datta et al. (2020) [22]	*For qualitative component:* 24 individuals living in urban Agartala Municipal Corporation in Tripura. All participants were males from different households.	Many individuals seem informed about Swachh Bharat Mission, with information sources primarily being from television; other sources include newspapers and mobile phones. Individuals felt that Swachh Bharat can have an important role in having localities being garbage-free, preventing indiscriminate disposal of waste, and preventing the transmission of diarrheal disease (such as those from flies and mosquitoes). Areas of major concern continue to be the presence of garbage in public areas, public toilets remaining unclean, infrequent and unpredictable collection of household waste by those in the municipality, and the presence of clogged drains within municipalities. Participants stated that indiscriminate throwing of garbage in market areas is rare since the initiation of Swachh Bharat, and that drains in localities are cleaned much more frequently. Many felt that individual actions will have an important role in improving cleanliness and maintaining the successes of Swachh Bharat, and individuals are responsible for ensuring that they need to not throw garbage on ground areas and should not utilise drains and latrines for waste disposal.
Paul et al. (2021) [23]	77 individuals in 10 focus groups which included individuals of different ages across groups (from 13-19 to 65-72 years).	Participants feel that, despite Swachh Bharat, waste disposal was inadequate. Cow dung has been piling up in front of houses, kitchen water goes into roads, and plastic waste is inappropriately being disposed of in areas such as drains. It was felt that too heavy of a focus was placed on development of toilets, with minimal focus on waste disposal and drainage. Overall, individuals felt that the following factors contributed to a lack of adequate waste disposal: lack of commitment politically, ignorance of community regarding proper waste disposal, minimal involvement of females, and high costs of disposing waste. Increasing awareness of waste management by all members of communities is required; individuals need to demand adequate waste disposal from their politicians, and individuals need to be made aware of methods of disposal such as vermicomposting for cow dung and kitchen waste by health workers and government workers.
Jack, Ananthar aman & Browne (2022) [24]	28 adults interviewed in Mysore regarding cleanliness, with both semi-structured interviews (25), and small group interviews (4). Mean age: 37 (range: 21-73).	Several respondents had a positive optimism regarding Swachh Bharat, feeling that the usage of advertisements in newspapers, radio stations, and railway stations, have become a part of people's memories. Respondents felt that this has led to individuals littering less, and therefore feel that Swachh Bharat has therefore been a success in this regard. Individuals generally felt that public places were not clean, and a lack of education and awareness or just doing the wrong thing were reasons for this. Some individuals expressed frustration regarding this.
Khandare & Salve (2022) [25]	22 adult workers interviewed who have had more than 5 years of experience as waste loaders and street sweepers at the municipal corporation of Mumbai, as well as key informants in waste management operations.	Swachh Bharat has been successful in increasing awareness and consciousness of individuals regarding the need of cleanliness in society. However, it appears that vulnerable individuals (specifically, Safai Karamcharis) who work in cleaning waste continue to be stigmatized and excluded socially. Denoted by at least one participant that circumstances for vulnerable individuals cleaning waste have not changed since the initiation of Swachh Bharat. Safai Kamacharis are still stigmatized, are barred from settings such as hotels, are taunted and abused, and even assaulted. Despite Swachh Bharat, the occupation continues not to be respected.

 doi:10.20944/preprints202412.1733.v1

Sahoo et al. (2022) [26]	78 individuals who participants in 10 focus group discussions, and eight individual interviews to complement focus groups. Mean age = 41 years. 35 individuals from slums, 43 from non-slums; 47 females and 31 males.	Prior to the initiation of Swachh Bharat, few households were aware of waste segregation. Even those who were aware of it were not doing it anywhere as near as much as after Swachh Bharat's initiation. Since the initiation of Swachh Bharat, waste segregation has greatly improved, along with overall cleanliness in communities. Attitudes and feelings of self-efficacy have seen gradual improvements. Individuals felt that, particularly for children, colour coated containers for separating waste has been very helpful. Prior to the Swachh Bharat's initiation, this happened – but infrequently. It is now happening much more, but there were remains a clear need for more of this. Supervisors of waste collection inform community members how to segregate waste, but more of this is needed. Therefore, an emphasis has been placed on needing to educate individuals more about waste segregation. These could be from television and other media sources. Children have been learning about waste disposal from television sources. Some in slums felt that they should be better incentivized for separating wastes, whereas those not in slums more commonly felt that it was a civic duty to segregate waste. Incentives could be financial, but also through means such as a certificate of appreciation. Others also felt that it was a source of provide to keep areas clean. Some indication that cleanliness and waste segregation was becoming a social norm, and that even cameras should be initiated to ensure that people are properly segregating. Many waste disposal facilities tended not to come on Sundays and holidays, which led to build-up of waste, and this led to improper waste disposal in numerous areas. Due to a lack of garbage vans/collectors coming to households, some disposed of waste in improper ways such as burning, dumping in sewers, and throwing out in the open. Some also felt that disposing of waste properly was financially burdensome, for reasons such as purchasing dustbins.
Dhami et al. (2020) [27]	1000 residents of Gandhinagar, Gujarat across a variety of ages, gender, family type, and educational qualifications	Majority of interviewees had enthusiastic acceptance of SBA's promotional activities, political affiliations, its environmental impact, and peoples' perception of the overall personal and societal change regarding the initiative. Regarding political affiliations, subjects assumed SBA was a strategy to gain votes. With some, involvement of any government official was viewed with great suspicion for clandestine activities or party propaganda. Others had mixed scepticism were participants were not too trusting but not entirely sceptical. Some were also completely trusting of the actions of the government. With environmental impacts, celebrity involvement promoting SBA as an environmental concern was an underhanded attempt to gain improved public relations. There were mixed opinions regarding the environmental impacts with some believing visible and swift progress, others believing in slow progress and some stating no progress to environmental cleanliness. For promotional activities of the government, a positive response was illustrated when clear and active efforts were taken towards mobilising masses as opposed promoting hidden agendas for questionable reasons. In respect to personal and societal choices and changes, the most commonly emerging view was of substantial effort towards the aims and objectives of SBA. Some had a neutral opinion and some also thought that there was a lack of effort and no tangible results from the communal results of the SBA initiative. A large section of the strongly positive impacts of personal and societal choices were from youth members which can be attributed to their own contributions through utilisation of spreading SBA information through social media.
Jain et al. (2020) [28]	21 citizens of rural Bihar consisting of seven men and six women with variation in age, gender, caste, household latrine ownership, occupation, and	The latrine construction subsidy of 12,000 rupees is too little for the construction and ongoing maintenance of adequately sided latrines. Frustration towards SBA and the government for not understanding financial concerns of people when forced to promote cleanliness but with no money to do so and lack of proper waste management by the government. SBA-G incentive delivery methods were not practical with construction first needed before payment; however, poor people were unable to make upfront costs

 doi:10.20944/preprints202412.1733.v1

	education. Eight men with demographic variation but homogeneity with regards to caste, gender, and occupation.	Fears of corruption in not receiving the full subsidy. Uncertain of how subsidy payments were managed, some thinking 95% of the ward need latrines before payment will be given. Some believing payments will take up to five years. Distrust towards government influencing perceptions of SBA-G. In reference to previous development initiatives, believed that development was prioritised in urban centres first and governments were less willing to help rural areas. Anger and resentment towards the government influenced willingness and ability to trust SBA-G

- Successes of SBM

In a study evaluating attitudes of government workers who have been involved in SBM at different levels, it was found that there were overwhelmingly positive attitudes towards SBM among participants [20]. Respondents in this study described the work of SBM as extraordinary and the successes as far beyond expectations. Successes were named on a wide array of parameters, including (but not limited to): changing social norms regarding cleanliness, motivating workers, utilistion of technology, effectively breaking barriers of large administrations, effective usage of media sources, rapid action by bureaucrats when required, creating psycholoigical changes, and continuning more efforts to build on succeeses [20]. In a different study, many had a positive attitude towards SBM, and felt that aspects of this program have entered into the minds and consciousness of citizens [24]; individuals felt that this has translated into less littering, and highlights success of the efforts of SBM. A similar finding was describd in a study by Khandare & Salve, where it was demonstrated that SBM has been successful in increasing awareness of the need to remain as clean as possible [25]. In a study by Datta et al. [22], it was noted by a number of participants that, with the implementation of Swachh Bharat, disposing of garbage in market areas had become rare, and that drains in areas were being cleaned much more frequently [22]. Participants in the study by Sahoo et al. [26], which includes slum dwellers and non-slum dwellers, stated that SBM had a highly impactful role in increasing overall cleanliness and waste segregation in the areas that they reside in. Dhami et al. [27] noted that the majority of percieved success of SBM were from youth members, and attributed this to their own contributions to the SBM via promotional activities on social media.

- The role of media

It was generally agreed upon by participants across studies that SBM has been effective in utilising major media sources in order to raise awareness about SBM's overall goals, and the importance of maintaining cleanliness. The study on government workers found that one important reason for SBM's overall success has been attributed to the extent to which media has been used for messaging purposes [20]. In one study, participants described that much of the knowledge that they have previously attained regarding SBM has come primarily from television (and secondarily, from newspapers and mobile phones) [22]. Similarly, in a study by Jack, Anantharaman & Browne [24], it was stated that the usage of advertisements for SBM in newspapers, radio stations, and railway stations have been integral in making people aware. Recognising the importance of media sources, participants in one study describe that the ongoing usage of media, which may need to be scaled up for certain aspects of promoting cleanliness, will be important for SBM to have continual success [21]. Many participants in another study emphasized that levision sources were of the utmost important for raising awareness across all age groups [26]. However, Dhami et al. noted that participants found celebrity involvement in the media in promoting SBM as an environmental concern to be an underhanded attempt to gain improved public relations [27].

- Awareness, mindset, and education

It was commonly stated among participants in a number of studies that more initiatives and efforts need to be made to increase awareness amongst individuals, to ensure proper educating of individuals, and to change to existing mindsets that deter cleanliness efforts in communities [21–25,27]. In one study, in which medical undergraduates were asked about their opinions on how to improve overall cleanliness in society, participants indicated a need to raise awraeness particularly

 doi:10.20944/preprints202412.1733.v1

amongst youth and children, and this can happen by increasing engagement through education, competittion opportunities, and movies [21]. The participants in this study indicated that this should be supplemented with education for communities, and reforming sylabi in educational institutions. In another study, it was stated by participants that efforts will need to be made to address attitudes and actions in communities such as disposing of waste in ground areas and disposing of waste in latrines/toilets [23]. Participants in a separate study emphasized that raising awareness of waste management will be critical, and that individuals in communities need to be guided by health and government workers [23]. Some individuals in the study by Jack, Anantharaman & Browne [24] stated that a lack of education and awareness were prime drivers to public places not being clean, and this was a source of frustration for some.

- Waste disposal issues

An issue that was described in participants across studies was the lack of action taken towards waste disposal, and the need for change in this domain was expressed. Medical students across one study emphasized that the proper disposal of waste across Bharat needs to be an area of focus [21]. The presence of garbage in public areas was described amongst individuals in urban parts of Tripura that there were a number of waste disposal issues that should become a priority to address: garbage in public areas, public toilets continually remaining unclean, infrequent/unpredictable collection and disposal of household waste, clogged drains within the municipalities, and drains/latrines being used by others for waste disposal [22]. These same individuals did feel that SBM can have an important role in both preventing the indiscriminate disposal of waste, and in ensuring that localities remain free of garbage. Participants in the study by Paul et al. [23] similarly felt that SBM has had too heavy of an emphasis on toilet development, and an inadequate focus on drainage and waste disposal. They also denoted that individual factors are contributing to this inadequate waste disposal, along with a lack of a political commitment, ignorance of community waste disposal, minimal options for females to be involved, and the high financial costs in disposing of waste; they felt that a part of SBM should be dedicated towards educating individuals about how to dispose of waste, as well as how to do forms of waste disposal such as vermicomposting for kitchen waste and cow dung. As well, they described ongoing issues such as cow dung piling into houses, kitchen water with waste going into roads, and plastic being inappropriately being disposed of, often ending up in drains.

Sahoo et al. [26] discuss the issues of of a lack of proper waste segregation and disposal in detail. While they state that waste segregation, and awareness of its importance, has increased greatly since the initiation of SBM, it nonetheless is greatly lacking. There is a need for more supervisors of waste collection to instruct community members on how to adequately segregate waste. Others stated that incentives should be provided to individuals for segregating waste, and these incentives do not necessarily have to be financial (for example, a certificate of appreciation). Some felt that community surveillance, through camera monitoring, would be a useful way to ensure that more individuals segregate waste and dispose of it properly. An issue that was also brought up by participants in this study was that waste disposal teams and facilities tended not to come in certain times and dates, such as weekends and holidays, which led to an accumulation of waste issues; these issues, which occur due to a build-up of waste, include burning of waste, dumping of waste in sewers, and throwing waste in the open. Individuals also stated that purchasing appropriate dustbins was difficult for some as it was a financial burden that they had to take on by themselves. The financial burden of SBM was echoed by residents of rural Bihar, who found that the construction subsidy of 12,000 rupees was inadequate for construction and maintenance of latrines, and were unclear as to how subsidy payments would be managed with some fearing government corruption [28].

- General/other SBM issues

Other issues were described by participants in these studies. Jain et al. [28], noted anger and resentment towards the government to trust the SBM as they percieved the government to prioritse urban centres first, and less willing to help rural areas. Safai Kamacharis in Mumbai, stated that they contiinually faced stigmatization and social exclusion due to their roles as waste loaders and street sweepers. Some even described being banned from certain hotels and even taunted, abused and

 doi:10.20944/preprints202412.1733.v1

assaulted by individuals for their roles [25]. They hence stated that SBM has been unsuccessful in changing this, and that they continue not to be respected. In a different study, participants stated that SBM should not be focusing solely on toilet development (and waste disposal) to achieve the goals of ensuring cleanliness in society. Instead, there is a need to be make additional changes such as changing educational systems to emphasize more on cleanliness, cleaning rivers and riverbeds, creating stronger collaborations across various domains and spheres such as public health, irrigation, finance, and education departments, and creating clearer and firmer legislation that can lead to improvements in the environment and create upsurges in cleanliness as a priority overall [21].

3. Discussion

In this review, it has been demonstrated that, while there is notable variation in the perceptions and thoughts regarding SBM for individuals across the nation, there are also clear parallels and notable themes that have emerged. Overall, it appears that many agree that SBM has been highly successful on numerous parameters. Specifically, the mission has been highly effective in working in an efficient manner that is not restricted by slow moving bureaucracy, and this has been facilitated by collaboration of government workers across differing areas of work. There have been major successes in creating need sanitation infrastructure, and this has translated to success in improving sanitation and in improving individual and community awareness regarding the need to maintain cleanliness. There has been heavy praise of SBM's usage of mass media sources to disseminate messages regarding cleanliness. For the ongoing implementation and enactment of SBM, these successes need to be recognized, and continually built upon to ensure that these successful aspects of SBM can continue to have a positive influence into the future.

In spite of the successes, there are a clear number of areas in which SBM needs to also be expanded and revised for continual implementation. While media has been highly successful, the usage of media sources to present the messages of SBM should be utilized to a higher degree, especially as SBM continues to build upon its existing goals (such as for the goals of Phase II of SBM). This should focus on all aspects of populations, including children, and should involve a diverse array of media sources – while television has been shown to be the most effective and is hence a media source that should be heavily relied upon – other media sources such as radio stations, social media and phone messaging should be utilized on large scales.

One of the biggest barriers to the successes of SBM, whether it be in regards to open defecation or a lack of proper waste disposal or waste segregation, has been the lack of awareness of individuals. As already stated, SBM's usage of educational and informative resources has been highly effective in creating behavioural changes, but this needs to be scaled up; more focus should be placed on areas where awareness remains minimal, such as those relating to waste and types of waste. However, it has also been emphasized that individual mindsets also may serve as an important barrier to cleanliness measures across Bharat. Changing these mindsets will likely serve to be difficult, and more research is needed as to how mindsets regarding sanitation and waste can effectively be changed amongst individuals. However, education will also clearly have an important role in creating these changes. Community collaboration, and encouragement of others to take proper actions, can be a valuable facilitator of change and should occur nationwide; government workers on the ground can be powerful agents of change across rural and urban settings, and in slum and non-slum settings. The usage of incentives (which can also reward positive behaviours without necessarily providing financial prizes), and potentially even forms of punishments, may warrant effective means of creating change, but research is needed for the impacts of these measures. However, they may be worthy of consideration if they can create change at a low cost.

An important area in which SBM has not yet been adequately successful, but can be in the future, is regarding waste management and waste segregation. Participants across numerous studies have made it clear that this is a large priority for them. Therefore, it is clearly of high need for political commitment to be reserved towards improving waste disposal across all parts of the country. This should involve a multi-leveled approach, similar to those already taken in the first phase of SBM. As the past success of SBM has already shown, there is potential for both massive, and rapid, success in

 doi:10.20944/preprints202412.1733.v1

improving waste disposal if resources are properly allocated for this task in the second phase of SBM. Clear ways in which SBM can have positive impacts in waste disposal are to have significantly more awareness campaigns, to provide communities and individuals with informative educational sessions on how to dispose of and segregate waste, to provide access to required dustbins at low costs or no costs to individuals, and to ensure that waste disposal facilities are provided and that waste is regularly disposed of in communities by government waste workers. Alongside this, it is critical to ensure that workers involved in disposal of waste are respected as much as possible, and that efforts are made to ensure that they are not stigmatized or discriminated against in society; ideally, measures will be taken to change community attitudes so that these workers receive more overall respect from community members. It is also critical to ensure that SBM is implemented equitably across rural and urban locations across India, and that rural locations have adequate financial support in constructing and maintaining latrines and waste disposal safely.

A summary of key findings of this review, and implications for future policy development and the ongoing implementation of SBM, are shown in Table 3.

Table 3. Summary of key findings and recommendations for the continual implementation of SBM.

Key finding	Implications for policy
• Since 2014, many perceive SBM to have been highly successful – particularly in high efficiency and collaboration across spheres, improving sanitation, improving attitudes and awareness, and in the usage of mass media sources	• There is a clear need to recognize that many actions taken over SBM have been highly successful, and these successes should be built upon and be used as a source of guidance
• Participants feel that, for awareness of SBM's aims to continue to be a part of public consciousness, there needs to be even more usage of major media sources.	• Usage of mass media sources, particularly television, need to be expanded and further utilized to achieve additional longer-term goals of SBM – such as those pertaining to waste management.
• Mindsets that are not focused towards maintaining cleanliness, and a lack of awareness regarding why and how cleanliness can be maintained, is a major barrier	• Awareness campaigns and educational campaigns, whether they are in rural or urban settings, and in slum or non-slum settings, need to be implemented and enacted on a very large scale for SBM to be successful. Incentives and even forms of punishment may be considered as additional options when educational/awareness efforts do not suffice, but more research is needed on how to best create change.
• A clear problem expressed by many individuals is a lack of proper waste disposal and waste segregation	• Scaling up of waste disposal, along with increasing awareness of the importance of this, should become an important priority of SBM, nationwide. Government should provide access to required dustbins at low costs or no costs to individuals and ensure

 doi:10.20944/preprints202412.1733.v1

	that waste disposal facilities are provided and that waste is regularly disposed of in communities by government waste workers. Efforts need to be made to stop stigmatization and discrimination against those who work in waste management and disposal.

The findings and implications of this review need to be considered alongside the limitations. While diverse perspectives from individuals across Bharat were considered in the studies in this review, it is not clear regarding the extent to which these findings are representative of views for people across the nation. Due to factors relating to selection and/or desireability bias, it is plausible that a number of individuals with alternative views may not have chosen to participate in these studies, and this may have skewed the overall findings. Furthermore, this review was limited to an analysis of only nine studies. Again, it is possible that, with more studies of differing sample populations, the findings may vary. Another limitation of this review is that all of the studies only included perceptions and perspectives at a single time point. It is plausible that individuals' views may change over time, and may be different depending on the time of year. However, this was not adequately accounted for in this study. A third potential limitation of this review was that the studies may have provided pre-formed questions (in focus group discussions and/or interviews) to participants that may not have allowed participants to freely express the extent of their opinions regarding SBM and its successes/shortcomings. Regardless of these limitations, this review provides an important evidence base for which policymakers, government workers, non-governmental organisations, and researchers to better understand the domains in which SBM has, and has not been successful – and these findings can have an important role in guiding how SBM can be further developed in a way to expediently improve cleanliness across Bharat.

5. Conclusions

In this review, it has been shown that SBM has been seen in a highly favourable manner across segments of the population across Bharat – particularly in being able to achieve its goals of raising awareness, overcoming potential institutional barriers, and creating needed infrastructure. However, along with this, the review has also highlighted areas of improvement for the ongoing development of SBM; specifically, there is a need to continually use media sources, to raise more awareness about issues relating to cleanliness, to change mindsets, and to place significantly more resources in ensuring that waste disposal and waste segregation occurs consistently and smoothly across the nation. In summary, SBM has shown massive successes in the past and, if strategies are adequately adopted based on existing evidence, then this success can continue to occur in ongoing years and, potentially for decades.

Author Contributions: K.V. was the sole writer and contributor for this work and was solely responsible for all of the following: conceptualization, methodology, validation, formal analysis, investigation, data curation, writing of the draft, reviewing and editing,

Funding: No funding was provided for this work.

Institutional Review Board Statement: Not applicable for this review.

Informed Consent Statement: Not applicable for this review.

Data Availability Statement: No new data was created for this review.

Acknowledgments: No funding was provided to the author for this work.

Conflicts of Interest: The author has no conflicts of interest to disclose.

References

 doi:10.20944/preprints202412.1733.v1

1. World Health Organization. Diarrhoea. World Health Organization. Accessed from: https://www.who.int/health-topics/diarrhoea#tab=tab_1
2. World Health Organization. Sanitation. World Health Organization. 2023. Accessed from: https://www.who.int/news-room/fact-sheets/detail/sanitation
3. Khura, B., Mohanty, P., Gandhi, A. P., Patnaik, L., Mewara, A., Pradhan, K., & Padhi, B. K. (2023). Mapping Concurrent Wasting and Stunting Among Children Under Five in India: A Multilevel Analysis. International journal of public health, 68, 1605654. https://doi.org/10.3389/ijph.2023.1605654
4. Government of India. About Swachh Bharat Mission. 2024. Swachh Baharat Mission. Accessed from: https://swachhbharatmission.gov.in/sbmcms/index.htm
5. United Nations. Swachh Bharat Abhiyan (Clean India Mission. SDGS.UN. Accessed from: https://sdgs.un.org/partnerships/swachh-bharat-abhiyan-clean-india-mission
6. UNICEF. Financial and Economic Impacts of the Swachh Bharat Mission of India. United Nations. Retrieved from: https://www.unicef.org/india/media/1206/file/Financial-and-Economic-Impacts.pdf
7. Hutton, G., Patil, S., Kumar, A., Osbert, N., & Odhiambo, F. (2020). Comparison of the costs and benefits of the clean India mission. World Development, 134, 105052. https://doi.org/10.1016/j.worlddev.2020.105052
8. Prakash, S., Kumar, P., Dhillon, P., & Unisa, S. (2022). Correlates of access to sanitation facilities and benefits received from the Swachh Bharat Mission in India: analysis of cross-sectional data from the 2018 National Sample Survey. BMJ open, 12(7), e060118. https://doi.org/10.1136/bmjopen-2021-060118
9. World Health Organization. Health gains from the Swachh Bharat initiative. World Health Organization. 2018. Accessed from: https://www.who.int/india/news/detail/27-07-2018-health-gains-from-the-swachh-bharat-initiative
10. Tiwari, A., & Tiwari, A. (2016). Kayakalp: Impact of swachh bharat abhiyan on cleanliness, infection control and hygiene promotion practices in district hospitals of Chhattisgarh, India. IOSR-JESTFT, 10, 55-8. DOI: 10.9790/2402-1009015558
11. Dandabathula, G., Bhardwaj, P., Burra, M., Rao, P. V. V. P., & Rao, S. S. (2019). Impact assessment of India's Swachh Bharat Mission - Clean India Campaign on acute diarrheal disease outbreaks: Yes, there is a positive change. Journal of family medicine and primary care, 8(3), 1202–1208. https://doi.org/10.4103/jfmpc.jfmpc_144_19
12. Gahlot, A., Singh, S. P., Nayan, R. K., & Bhagoliwal, A. (2019). Impacts of Swachh Bharat Mission on awareness and health of rural population in Kanpur Nagar, Uttar Pradesh. Indian J Forensic Community Med, 6, 103-6. https://doi.org/10.18231/j.ijfcm.2019.024
13. Government of India. India Achieves Major Sanitation Milestone As 75% Villages Are Now ODF Plus under Swachh Bharat Mission – Grameen. Government of India. 2023. Accessed from: https://pib.gov.in/PressReleasePage.aspx?PRID=1959918
14. UNICEF. Poo to the Loo campaign. UNICEF. Accessed from: https://www.unicef.org/india/campaigns/take-poo-loo
15. Dandagi, S., & Godara, N. R. (2022). Swachh Bharat Mission–An overview of its impact on knowledge and practices on sanitation, hygiene and waste disposal among general population in selected villages of Belagavi, Karnataka. Journal of Pharmaceutical Negative Results, 1140-1148.
16. Walake, R. C., Singh, D. K., Yadav, R. N., & Singh, L. B. (2021). Utilization Pattern of Various Sources of Information for the Awareness of "Swachh Bharat Mission" in Meerut District. Indian Res. J. Ext. Edu, 21(1), 67-70.
17. Indumathi, K. (2022). Impact of IEC on Knowledge Attitude and Practice regarding Toilet Practice based on Swachh Bharat Mission among People residing at rural area in Chengalpattu Dt Tamil Nadu India.
18. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *bmj*, *372*.Tricco, AC, Lillie, E, Zarin, W, O'Brien, KK, Colquhoun, H, Levac, D, Moher, D, Peters, MD, Horsley, T, Weeks, L, Hempel, S et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. Ann Intern Med. 2018,169(7):467-473. doi: 10.7326/M18-0850
19. Nath, B., Yadav, S. K., & Kumari, R. (2018). Perception of Medical Students regarding "Swachh Bharat Abhiyan" a cleanliness campaign: a qualitative study. Indian Journal of Community Health, 30(3), 253-257.

 doi:10.20944/preprints202412.1733.v1

20. Curtis, V. (2019). Explaining the outcomes of the'Clean India'campaign: institutional behaviour and sanitation transformation in India. BMJ global health, 4(5), e001892.
21. Datta, A., Somani, A., Karmakar, N., & Nag, K. (2021). A study on knowledge and practices regarding swachh bharat mission among urban population of Agartala city, North East India. Medical Journal of Dr. DY Patil University, 14(5), 529-537.
22. Paul, S., Mehra, S., Sidhu, G., Malhotra, V., Sidhu, T. K., & Prajapati, P. (2021). Swachh Bharat Summer Internship Programme: An Opportunity of Community Based Service Learning Practice for Medical Students in India. International Journal of Medicine and Public Health, 11(2), 118-123.x
23. Jack, T., Anantharaman, M., & Browne, A. L. (2022). 'Without cleanliness we can't lead the life, no?'Cleanliness practices,(in) accessible infrastructures, social (im) mobility and (un) sustainable consumption in Mysore, India. Social & Cultural Geography, 23(6), 814-835.
24. Khandare, L., & Salve, P. S. (2023). Examining Determinants of Health among Safai Karmacharis ("Ex-Untouchables" Caste) in Mumbai. Social Development Issues, 44(3).
25. Sahoo, K. C., Soni, R., Kalyanasundaram, M., Singh, S., Parashar, V., Pathak, A., ... & Diwan, V. (2022). Dynamics of Household Waste Segregation Behaviour in Urban Community in Ujjain, India: A Framework Analysis. International Journal of Environmental Research and Public Health, 19(12), 7321.
26. Dhami, R., Anand, F., Sharma., R and Dave, N. (2020). A Cleanliness Drive in India: Assessment on Its Psycho-Social Impact." Liberal Studies 5 (1), 101-116.
27. Jain, A., Wagner, A., Snell-Rood, C., & Ray, I. (2020). Understanding Open Defecation in the Age of *Swachh Bharat Abhiyan*: Agency, Accountability, and Anger in Rural Bihar. International journal of environmental research and public health, 17(4), 1384.