

REVIEW ARTICLE

Factors determining sanitation information-seeking behavior: A literature review

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Abstract

This paper reviewed various assessments by different authors on sanitation information-seeking behavior of people in various areas and setting. Databases were used in the search for relevant academic published articles including Google Scholar and Google search engine. Articles for the review were drawn from peer-reviewed journals. Moreover, conference papers and research by recognized independent institutions. This review showed that factors determining sanitation-seeking behavior could be seen in various contexts: Economical, environmental, technological, and psychosocial. Therefore, the effective utilization of sanitation information will depend on social structures, level of education, cultural beliefs and practices, economic, government, and environmental conditions. Sanitation is the hygienic means of promoting health through prevention of human contact with hazards of waste as well as the treatment and proper disposal of sewage and wastewater. Strategic policy formation in the society should be based on information relating to sanitation, cleanliness, health promoting, and information-seeking behavior.

Keywords: Information, sanitation, seeking behavior

INTRODUCTION

Sanitation is the state of being clean and conducive to health, with respect to defining sanitation most professionals or scholars would agree that “sanitation” as a whole is wide and covers different areas, such as safe collection, storage, treatment, and disposal/re-use/recycling of human excreta. Management/re-use/recycling of solid wastes, drainage and disposal/re-use/recycling of household wastewater, drainage of storm water, treatment and disposal/re-use/recycling of sewage effluents, collection, and management of industrial waste products; and management of hazardous wastes including hospital wastes, and chemical/radioactive and other dangerous substances.^[1] Proper sanitation is a necessary prerequisite for improvement in general health standards, productivity of labor force, and good quality of life. The practices with regard to body cleanliness vary according to seasons.^[1]


The key to a man’s health lies largely in his environment and much of man’s ill health can be traced to adverse environmental factors such as water pollution, soil pollution, air pollution, poor housing conditions, presence of animal reservoirs, and insects vectors of diseases which pose a constant threat to man’s health.^[2] To a great extent, man is responsible for the pollution of his environment through urbanization, industrialization, and other human activities. Sanitation refers to the safe management of human excreta from the point of defecation to its disposal, treatment or reuse. In the urban environment, especially, sanitation also includes the management of solid waste,

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gray water, and surface drainage. In the wider context, sanitation includes not only physical systems, but also the policies, legal and management frameworks, and investments necessary to achieve sanitation for all.^[2]

Information-seeking behavior and practice of people in the community is paramount in this area. In view of this, people in the community should be guided on how to seek information on sanitation in general. This paper assessed the factors determining sanitation information-seeking behavior in general.

LITERATURE REVIEW

Environmental sanitation as a set of actions geared toward improving the quality of the environment and reducing the amount of disease. By doing so, the hope is that living conditions will improve and health problems decrease. The management of water, solid waste, industrial waste as well as the topic of air pollution and noise control, all fall under the broad concept of environmental sanitation.^[3]

Access to safe sanitation between 2003 and 2008 in Nigeria was 57.6%. Every year, some 3.4 million people, mostly children, die from diseases associated with inadequate water supply, sanitation, and hygiene. Over half of the hospital beds in the world are filled with people suffering from water- and sanitation-related diseases. In 2002, participants in the World Summit on Sustainable Development in Johannesburg, South Africa, made a commitment to reduce by half the proportion of people without access to basic sanitation by the year 2015.^[4]

Nigeria is one of the countries in sub-Sahara whose records on sanitation facilities by the citizens remain very poor. The Nigerian cities in particular are fraught with in exorable rise of squatter settlements, overcrowding dwellings, breakdown of waste disposal arrangements, air and water pollution, and inadequate water and sanitation services. Many problems of mortality, morbidity, and poverty have been reported in the literature as consequences of a lack of safe drinking water supplies as well as poor sanitation coverage.^[5]

The campaign for sanitation has been launched severally, leading to emergence of various agencies such as Federal Environment and Protection Agency, Ministry of Water and Environmental Sanitation, Solid Waste Management Authority, and Local Community and Health Development. Many private sectors are also involved in waste collection and processing in the urban areas.^[6]

Excreta disposal (sanitation) has received less attention in recent decades. On the grounds of biological

plausibility, however, sanitation should be as important as or even more important than water access in reducing transmission of diseases.^[7] Sanitation removes fecal matter, a chief reservoir of pathogens, from the environment. It therefore requires maintaining a clean house and surroundings, and if implemented well, can also prevent contamination of water sources. A clean environment can also reduce the breeding sites of flies that have been shown to transmit diarrhea pathogens and trachoma. Sanitation therefore contributes to the prevention of most diseases. For householders, it is again the nonhealth benefits such as privacy, convenience, social status, and reuse of waste in agriculture that matter most. Sanitation can also contribute to education as it has been shown that many girls temporarily stay away from school due to the absence of sanitation facilities.^[7]

In the community, where open defecation is still the norm, women are not supposed to defecate during daylight hours, with many adverse consequences in terms of convenience, health, and security when they do so during darkness. There are many different techniques of sanitation ranging from simple pit latrines, pour-flush toilets, septic tanks, and ecological sanitation to sewerage connected flush toilets. There are no simple sanitation solutions. Importantly, programs need to create a demand for sanitation, which, especially in rural areas is not always present. In some rural settings with low population density, especially in hot and dry climates, open defecation may not only be the cultural norm but from the public health perspective may be as safe as improved sanitation (unless trachoma is a public health problem). This strategy asserts that context specific strategy will be more effective in reaching deep into communities and households than a single national strategy though a general framework would be useful at national level.^[7]

Information as concepts remains tangled in a loosely defined terminology. Yet, everyone has to deal with it in many ways throughout their life. The simple meaning of information in a restricted science is a sensible statement, opinion, fact, concept of ideas, or an association of statements, opinions, or ideas. Information is data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective action or decisions. Concepts of information proposed over 180 International Journal of Library and Information Science. The concepts are information as a representation of knowledge, Information as data in the environment, information as part of the communication process and information as a resource or commodity. Information is the crucial need of users; it is also an essential ingredient to participate in the new ways of doing personal and academic activities. Timely availability

of up to date and appropriate information will no doubt generate creativity in the users.^[8]

Information-seeking behavior refers to those activities a person engages in when identifying his/her own need for information, searching for such information in any way and using or transferring of information. Information behavior is the totality of human behavior in relation to the sources and channels of information, including both active and passive information-seeking and information use. Thus, it includes face to face and online communication with others as well as the passive reception of information.^[9] Information-seeking behavior involves personal reasons for seeking information, the kinds of information, which are being sought and the ways and sources with which needed information is being sought.^[10] Information-seeking behavior is expressed in various forms, from reading printed material to research and experimentation. Scholars, students, individuals, communities, organizations, young and old actively seek current information from the various media available; for example, encyclopedias, journals, electronic media, newspapers, from elders, through sensitization, town criers, etc.

Government has the leadership responsibility in relation to policy and legislation, definition of roles and responsibilities, coordination, sector monitoring, and regulation. The regulatory role of the state should specifically include the establishment and enforcement of health regulations and standards. Strong and coordinated national government can bring about real change.^[11]

However, it is common for several central government ministries (including health, education, local government, public works, water, planning, finance, and agriculture) to have partial responsibilities for sanitation, and full clarity about roles and leadership responsibilities is often lacking. Local government and municipalities are often the frontline organizations responsible for implementing national policy and guidance at the district or town/city level. Their strength lies in their proximity to communities and households who need services. However, lack of clarity in implementation guidance and inadequacy of financial and human resources often act as major constraints to effective service delivery at this level.^[8] Utilities are responsible for some parts of the sanitation services in towns and cities. When they attempt to provide services to the entire population in their jurisdiction, real progress can be made. In many cases, however, their limited willingness or ability to address the sanitation problems of informal or unplanned settlements constrain progress. The private sector is involved in the supply of goods and services and the collection, transport and safe

disposal or treatment of waste. When incentives and reward are appropriate, the private sector can make an important contribution. However, the private sector is only fully effective when there is appropriate regulation, and weaknesses often exist in this area.^[12]

Non-governmental organizations (NGOs) and community-based organizations (CBOs) have a particular role in monitoring, advocacy and innovation, based on their experience in service delivery. The limited scale and reach, and the impermanence of most NGOs and CBOs can, however, limit their contribution. Communities and households are ultimately those who have to make choices about the adoption and use of improved sanitation. When sanitation promotion is effective and public knowledge and attitudes change, then practices can alter for the better too. However, sanitation promotion and service delivery, which is poorly conceived or implemented, are often ineffective. Financial and human resources are ineffectively deployed and poorly coordinated. These weaknesses in governance mean that activity in the sanitation sector can be dominated by NGOs and donors, rather than being led by strong national policies and institutions. Poor coordination between implementing NGOs and between donors also contributes to the fragmentation in the sector.^[12]

SANITATION INFORMATION

Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of waste as well as the treatment and proper disposal of sewage and wastewater. Hazards can either be physical, microbiological, biological, or chemical agents of disease. The World Health Organization states that “sanitation refers to the provision of services for the safe disposal of human urine and feces”. Inadequate sanitation is a major cause of disease worldwide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities. The word “sanitation” also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal.^[12]

In most communities, the basic causes of diseases are sanitation inadequate and unsafe water supply, and improper disposal of waste. To draw attention to the problem of sanitation, in its millennium development goals (MDGs), set a target that centered on improving sanitation. No. 7 of the MDGs was to halve the proportion of people without access to appropriate sanitation facilities and personal or environmental services.^[13] To remain healthy, human beings need adequate healthy living and

proper sanitation. Many debilitating or even fatal illnesses are spread by contaminated water supply with human fecal matter containing disease causing viruses, bacteria, and parasites. In Nigeria alone, over 50 million people lack either sanitation or adequate water, and frequently both. However, the grass root level network of health education expansion efforts by the governments and NGOs paves the way for access to information regarding sanitation and hygiene at least to a limited level.^[14] Access to and utilization of information on improved ways of living is a prerequisite for modernization process of any human being, as information sharing is power. It helps the individual to be more rational, increases the decision making abilities, improves the standards of life, and it becomes a process of self-empowerment. Denial of access to information curtails the chance of utilization of information; that in turn curtails self-empowerment. This is why communication and information flow is considered to be the main agendum in the development strategies of the third world presently.^[14]

Sanitation should be as important as or even more important than water access in reducing disease transmission. Sanitation removes fecal matter, a chief reservoir of pathogen from the environment. It therefore facilitates maintaining a clean house and surroundings, and if implemented well, can also prevent contamination of water sources. A clean environment can also reduce the breeding sites of flies that have been shown to transmit diarrhea pathogens and trachoma. Sanitation therefore contributes to the prevention of all diseases, such as ebola, cholera, and diarrhea. There are many different techniques of sanitation ranging from simple pit latrines, pour-flush toilets, septic tanks, and ecological sanitation to sewerage connected flush toilets. Successful campaigns have been characterized by strong and sustained political and community support, identifying what people want, building up of local businesses providing construction and services, and efforts made by energetic individuals with influence in the communities.^[14]

TYPES OF SANITATION INFORMATION

Community-led total sanitation information

Community-led total sanitation (CLTS) is an approach to achieve behavior change among individuals by a process of triggering, leading to spontaneous and long-term abandonment of open defecation practices. CLTS takes an approach to proper sanitation that works without hardware subsidies and that facilitates communities to recognize the problem of open defecation and take collective action to clean up and become open defecation free.^[15]

Dry sanitation information

The term “dry sanitation” is somewhat misleading as sanitation includes hand washing and can never be dry. A more precise term would be dry excreta management. When people speak of dry sanitation, they usually mean sanitation systems with dry toilets with urine diversion, in particular the urine diverting dry toilet.^[15]

Ecological sanitation information

Ecological sanitation, which is commonly abbreviated to ECOSAN, is an approach, rather than a technology or a device which is characterized by a desire to close the loop (mainly for the nutrients and organic matter) between sanitation and agriculture in a safe manner. Put in other words: ECOSAN systems safely recycle excreta resources (plant nutrients and organic matter) to crop production in such a way that the use of nonrenewable resources is minimized. When properly designed and operated, ECOSAN systems provide a hygienically safe, economical, and closed-loop system to convert human excreta into nutrients to be returned to the soil, and water to be returned to the land. ECOSAN is also called resource-oriented sanitation.^[16]

Environmental sanitation information

Environmental sanitation is the control of environmental factors that form links in disease transmission. Subsets of this category are solid waste management, water and waste water treatment, industrial waste treatment, and noise and pollution control.^[17]

SANITATION INFORMATION-SEEKING BEHAVIOR

Information-seeking behavior is a basic activity indulged in by all people and manifested through a particular way of behavior. It is also an aspect of scholarly work most interesting to academic librarians who strive to develop collections, services, and organizational structures that facilitate seeking of information.^[15] Information-seeking behavior is a broad term which involves a set of actions that an individual takes to express information needs, seek information, evaluate and select information, and finally uses this information to satisfy his/her information needs. Different factors may determine the information-seeking behavior of an individual or a group of individuals. It is, therefore, desirable to understand the purpose for which information is required, the environment in which the user operates users' skills in identifying the needed information, channels and sources preferred for acquiring information, and barriers to information. Information-seeking behavior that results from recognition of any activity of an individual that is

undertaken to identify a perceives that the current state of possessed knowledge is less than that needed to deal with some issue or problem.^[18]

Information-seeking behavior includes those activities a person may engage in when identifying their own needs for information, searching for such information in any way, and using or transferring that information. Therefore, sanitation information-seeking behavior is a purposive search or a need for information on a state of being clean and a conducive health.^[19]

Variety of factors as the leading causes of inadequate or poor sanitation information-seeking behavior. Review suggests that factors can be classified as environmental factors, economic factors, psychosocial factors, and technological factors.^[13]

Environmental factors

In areas where a large proportion of the population is not served with adequate water supply and sanitation, sewage flows directly into streams, rivers, lakes, and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions of children to disease. Particularly, in the context of urbanization, domestic wastewater, sewage, and solid waste improperly discharged presents a variety of concerns from providing breeding grounds for communicable disease vectors to contributing to air, water, and soil pollution. The results of poor waste management also contribute to a loss of valuable biodiversity. In the case of coral reefs, urban and industrial waste and sewage dumped directly into the ocean or carried by river systems from sources upstream, increase the level of nitrogen in seawater. Improved sanitation reduces environmental burdens, increases sustainability of environmental resources and allows for a healthier, more secure future for the population.^[13]

Economic factors

The economic polarization within the society and lack of social security system makes the poor more vulnerable in terms of affordability and choice of sanitation systems, facilities, and practices. Poverty not only excludes people from the benefits of sanitation system, but also restricts them from participating in decisions that affect their health, resulting in greater health inequalities. Possession of household items, cattle, agricultural land, and type of residence signify not only the socioeconomic status but also give a picture of livelihood of a family. It has been observed that magnitude of household out of pocket expenditure on sanitation is at times as high as 80% of the total amount spent on healthcare per annum.

Economic ability to utilize sanitation services has not been very different in Nigeria. Cost has undoubtedly been a major barrier in seeking appropriate sanitation information. Poor sanitation services and practices do not only lead to the consultation fee or the expenditure incurred on medicines count, but also the fare spent to reach the facility and hence the total amount spent for treatment turns out to be cumbersome. Consequently, household economics limit the choice and opportunity of purchasing original sanitation facilities and also leads to poor maintenance.^[13]

Psychosocial factors

A wide range of psychosocial factors operate at different levels across the literature reviewed. At the community level, use of community latrines involves psychosocial factors such as shared values and collective efficacy to keep facilitates clean and operational. One study in this synthesis assessed community ablution blocks (shared, communal latrines that include a wash station). Users of community ablution blocks cited health, comfort, a cleaner environment, and easy access as benefits to using communal latrines. Several of the sanitation articles in this synthesis are reports of total sanitation programs. These campaigns mobilize communities to commit to building and using latrines, often staging “triggering events” at the community level to utilize disgust of feces in the environment as a means of stigmatizing open defecation. Though implicit in total sanitation, stigma and social mobilization were not discussed in detail or measured in the articles included in this synthesis. Similarly, it is interesting to note that disgust was not commonly mentioned in literature on sustained adoption. At the individual level, sanitation campaigns often leverage factors such as aspirations, social norms, and outcome expectations to promote latrine use. In a study assessing the postimplementation latrine use in rural Niger, participants discussed perceived advantages such as privacy, proximity, and environmental hygiene as well as disadvantages such as odor.^[13]

Technological factors

Cost, durability, feasibility of use and maintenance are required for sustainable and healthy sanitation practices. In low- and middle-income countries, cost of the initial technology and any associated parts or replacements are of great significance to users: If technologies are too expensive, no level of motivation will be enough for adoption and sustained use. Community-wide mobilization and ownership can aid in effecting long term changes; a successful program such as CLTS in part relies on a community to initiate the introduction of WASH technologies.^[16]

CONCLUSION

Many people do not realize the health and economic benefits to the individual, the community and to society from improving sanitation. The high cost of improving sanitation is often cited as a barrier to implementing sanitation projects. Improving sanitation is often low on the list of priorities. Most people are aware that poor sanitation has a health impact, but there is a lack of awareness of the extent of ill-health that it causes. On the other hand, Communities has developed very different sociocultural responses to the use of untreated excreta, these ranges from deep disgust to practical preference.

Recommendations

To achieve an effective sanitation measures and practices, households, communities, local and national governments, civil society, and private companies all need to work together. Media and public opinion around the world can influence political leaders to act on sanitation with urgency and seriousness. Key areas of action that could create impact are as follows: Making political commitments; creating legislation and regulations to support improvement in access and quality of sanitation and hygiene services; bringing together more resources, having stronger institutions and better trained people; culturally sensitive and appropriate hygiene education; right choice of technology that are cost effective and environment friendly, etc.

The following recommendations are also suggested:

- Sanitation in schools is important, as it allows children to learn about hygiene at a receptive and early age, as well as having immediate and long term health benefits. Students should be educated on sanitation, the importance and its effects if not properly carried out
- Individuals should be encouraged by health workers to inculcate a regular habit of effective sanitation practices. This will lead to sustainable sanitation practices as an individual, family, group, state, and as a country
- Health workers, especially community health nurses should organize training for community groups on sanitation practices and to emphasize the importance of passing on the information gained to friends, neighbors, and other peers
- Constant and adequate provision of sanitation facilities by government for users, proper construction of latrines, and all basic sanitation infrastructures. Improving one's sanitation facility, ceasing to defecate in the open, correctly disposing of children's excreta and properly maintaining the facility by constant washing and emptying
- Sanitation promotion messages need to be continually reinforced in order for changes in behavior to be long lasting; this can be done through proper channels of communication to the right category of people. E.g., media, newspaper, house to house orientation, and sensitization.

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