OPEN DEFECATION: HEALTH AND SOCIAL EFFECTS ON NIGERIAN WOMEN

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ABSTRACT: The practice of open defecation is very prevalent in countries where a good number of the population is under-privileged and often the victims of substandard life of which women are the most affected. This practice is a condition where human faeces are disposed in fields, forests, open bodies of water, beaches or other open spaces or even disposed with solid waste like polythene bags in open places. The importance of sanitation to safeguard human health has a very good public health dimensions and access to sanitation has been very fundamental in ensuring human dignity, health and social well-being of members of any given society. This study provided a detailed theoretical evaluation of health and social effects of open defecation on women in Nigeria. The study employed descriptive research method by explaining the relationship between poverty, ignorance, health and social challenges associated with open defecation practice among Nigerian women. It adopted a theoretical review method of explaining the concept of defecation and women; given attention to the empowerment theory that explained some impediments to the easy access of sanitation facilities by the Nigeria women which included the issue of poverty, ignorance, and obnoxious beliefs on defecation practice. The issue of poverty which is as a result of lack of empowerment and ignorance to the health risk associated with open defecation occasioned by lack of education, made it difficult for women to have an improved toilet system which made them to be exposed to open defecation practice and its social and health effects. The result of the study revealed that women were always at the receiving end when there is lack of toilet facilities in any household and this situation exposed them to various adverse health related issues coupled with sexual violence, they experienced during openly defecating. It was recommended among other things that there is need for promotion of local, innovative and affordable technologies for the construction of improved toilet system coupled with the elimination of cultural constraints that limits women's access to improved sanitation facilities.

Keywords: Open Defecation, Women, Sanitation, Cultural Constraints, Low-and Middle-Income Countries

INTRODUCTION

Open defecation is widely practised in developing countries of the world. This practice is a condition where human faeces are disposed in fields, forests, open bodies of water, beaches or other open spaces or even disposed with solid waste like polythene bags in open places (UNICEF/WHO, 2015). Not only that open defecation poses substantial threat to environmental and human health, safety, privacy and dignity, especially for women and children, it is also one of the strongest expressions of extreme poverty (Desai & Graham, 2015; Abubakar, 2017; Gine Garriga et al., 2017).

Defecating openly equally has tremendous health implication and effects. For instance, open defecation related diseases like diarrhoea are the leading cause of under-five (5) deaths among children in developing countries coupled with other diseases like typhoid, trachoma and other diseases. According to a report by WHO (2016), it was estimated that 2.4 billion people all over the world do not have access to basic sanitation facilities such as toilet or latrines. The recent report by UNICEF (2018) showed that 4.8 billion people worldwide do not have improved sanitation facilities. India is topping the list followed by Nigeria as most endemic nation in open defecation as 47 million of her citizens involve in this practice (UNICEF, 2018). It was observed that 18 percent of urban India still defecate in the open while the percentage in total India is as high a 69 percent. It was also reported that 1 in 3 women faces trouble in accessing safe toilet facilities (UNICEF, 2013). Open defecation is an issue that can affect everyone but women are often at more risk of experiencing violence and multiple health vulnerabilities (Gabriella, 2012). Women with poor sanitation facilities are more susceptible to hookworm infestation resulting in maternal anaemia, which in turn is directly associated to adverse pregnancy outcomes (Strunz, Addiss, Ogben, Utzinger & Freeman, 2014). Corburn and Hildebrand (2015) found that women with limited or no access to toilet predominantly suffered from diarrhoea diseases, a leading cause of undernutrition among women during their reproductive age. The interaction between disease and undernutrition can further uphold vicious cycle of worsening infection and deterioration of women's health, particularly in pregnant women. (Stephanson, Latharm & Ottensen, 2000). Considering the implications for women and physical security, women practicing open defecation are more at risk to violence, the UN argues that failure to address this at the national level is a form of gender discrimination and a violation of human right (UN, 2009). Substantial field evidence indicates that open defecation practices are related to increased psychosocial stress due to decreased privacy, increased risk of sexual harassment, and potential social sanctions such as gossip, shame, guilt and fear, particularly among women (Hirve, Sundaram, Chavan, Weiss and Steinmann, 2015). Using social pressure and peer monitoring can be effective for promoting toilet use (Pattanayak, Yang, Dickson, Poulos, Patil and Mallick, 2009). However, such social components could potentially induce psychosocial stress (e.g., shame, guilt, and fear) which might disproportionately affect women (Baram, Charles, Evans, O'hanlon & Pedley, 2012). On the premise of the foregoing therefore, the study tends to identify the issue of public health and social effects of open defecation on women in Nigeria. The study would also examine some major factors that act as impediments to the construction of improved toilet system that would meet the health needs of women in Nigeria.

Review of Relevant literature

The phenomenon of open defecation has several health and social effects and this section would review authors perspectives on these two dimensions of open defection. Further, acute health effect of open defecation has adverse pregnancy outcomes such as increase in low birth weights, pre-terms birth, still birth and spontaneous abortions (Padhi, Baker, Dutta, Cumming, Freeman & Satparthy, 2015). Another principal acute health problem associated with open defecation studies suggested is infectious excreta-related intestinal diseases; of which diarrhoea disease (DD) is the third causes of deaths in children under five years of age in 2015 in low-income countries (LMICS) resulting in 499,000 deaths and a disability adjusted life years (DALYs) loss of 45.1 million years. One of the commonly ascribed reasons for high incidences of diarrhoea disease is poor water supply, poor sanitation and hygiene, especially poor hand-washing hygiene after open defecation (WHO, 2014).

Another serious health concern caused by open air defecation is increased anaemia which it was discovered that in Nepal, the poor local sanitation and specifically open defecation caused a lower haemoglobin and higher rates of anaemia among children which impairs their physical and cognitive development directly and on the side of the women as the caretaker of the house, they stay at home most at times when their relatives fall sick from sanitation related diseases thereby increasing their risk of contracting the disease and dropping out of school (World Bank report, 2010). It also affects human capital accumulation through impacts on behaviours such as poor school enrolment (Coffey & Gerusso, 2015). Females according to a report appeared to have prevalence of intestinal infection involving adult (Sam-Wobo, Asiwaju, Idowu, Eromosele & Adeleke, 2012). Several studies had affirm the vulnerability of child-bearing women to open defecation which can be detrimental to both mother and the developing foetus (Sam-Wobo, Asiwaju, Idowu, Eromosele & Adeleke, 2012; Padhi, Baker, Dutta, Cumming, Freeman & Satparthy, 2015; Majumdar, Bisoi & Halder, 2010; Janmohamed, Karakochuk, Mclean & Green, 2016) In west Bengal, India, it has been explored that open defecation is a confounding factor in the prevalence of hookworm infestation among pregnant women; in that pregnant women who defecate in open fields are at greater risk of hookworm infestation (24.3%) than those who use toilets (6.4%). (Munjumdar, Bisois & Haldar, 2010).

Risk of maternal complications increases with poor sanitation as it exacerbates the impacts of poor nutrition due to faecal-oral transmission of infections in pregnant women. It was observed that low body mass index (BMI) and low haemoglobin (Hb) level occurred in pregnant women of Cambodia who defecate in open in comparison to women with improved sanitation facility (closed pit latrine) (Janmohamed et al., 2016). It is also important to note that menstrual hygiene is a challenge for those who do not have access to a toilet. Studies have established the link between poor menstrual hygiene and lack of knowledge and facilities. Hygiene practices are compromised due to the non-availability of toilets as well as water and the lack of a safe place to change and clean menstrual cloths, leading to a risk of contracting reproductive tract infection (Dasgupta & Sarkar, 2018, Dhingra, Kumar & Kour, 2009; Water Aid, 2009). It is observed that many women change their menstrual pad twice a day, early in the morning while they are in the field for defecation and late in the evening at home or again in the fields. The majority use cloth, while others use sanitary pad that they throw away in the field thereby exposing themselves to leucorrhoea diseases that is often caused by poor personal hygiene (Dhingra, Kumar & Kour, 2009; Water Aid, 2009).

It was affirmed that in Mozambique, open defecation according to Gabriella, (2012) is an issue that had affected everybody but women are often at more risk of experiencing violence and multiple health vulnerabilities. Women with poor sanitation facilities are more susceptible to hookworm infestation resulting in maternal anaemia, which in turn is directly associated to adverse pregnancy outcomes (Strunz, Addiss, Ogben, Utzinger & Freeman, 2014). In Kenya according to a study by Corburn and Hildebrand (2015) women with limited or no access to toilet predominantly suffered from diarrhoea diseases, a leading cause of undernutrition among women during their reproductive age.

Health Risks of Open Defecation

The health risks attributed to open defecation related-diseases do not know borders as Nigeria is not immune to the problem of open defecation. No region in Nigeria is free from the burdens of this helminth infection caused by open defecation (Nwosu & Onyeabor, 2014; Taiwo, Sam-Wobo, & Taiwo 2016). Recent report revealed that Nigeria had 90 percent of the 122,000

Nigerians including 87,000 children under five who die each year from diarrhoea which is directly attributed to lack of Water Sanitation Hygiene (WASH). The finding regrettably showed that only 1 in 4 Nigerians has access to basic toilets leading to exposure to diseases such as diarrhoea, cholera, viral hepatitis, typhoid, polio and dysentery (Okonko, Soleye, Amusan, Mejeha, Babalola, Adekolurejo, 2009; UNICEF, 2018). Similar report in Nigeria according to UNICEF (2018) Water Sanitation and Hygiene (WASH) expressed that Nigeria's 40 million women of child-bearing age (between 15 and 49 years of age) suffer a disproportionally high level of health issues surrounding birth. While the country represents 2.4 percent of world's population, it currently contributes 10 percent global death for pregnant mothers. Latest figures show a maternal mortality rate of 576 per 100,000, the fourth highest on earth (UNICEF, 2018). Each year, approximately 262,000 babies die at birth and more than half of the under-five deaths are as a result of open defecation diseases like diarrhoea, which the nursing mothers or the pregnant mothers mostly suffers the consequences there from. Also, Okoli (2021) citing 2019 report on the maternal and child survival programme revealed that 16% of neonatal deaths are due to infection, 50% of Nigerian health care facilities (HCFS) lack basic water service while 88% lack sanitation services and midwives, mothers and children become the most vulnerable. According to Okoli (2021), yearly, Nigeria loses 100,000 children under the ages of 5 years to diarrhoea diseases attributable to open defecation.

Violence Associated with Open Defecation

In the issue of violence against women, studies have shown that incidents of violence against women occur often where open defecation is common (Amnesty International, 2010; Domestos Uniliver, Water Aid and Water Supply & Sanitation Collaborative Council (WSSC), 2013; Government of India, 2002; Bisurai, 2014; Sarah, Ferron, Sommer & Cavill, 2014). According to Azeez, Negi and Mishra (2019) in India, women not only fear openly defecating, they also are afraid of wild animals and insects attack in their places where they defecate or on their way to the fields. Many women according to the authors had experienced snake or scorpion bites at least once in their life time.

In relating to violence to poor water, sanitation and hygiene (WASH) conditions, a 2013 joint report shows that violence against women occur more often where open defecation is common. These have been grouped into sexual violence which involves rape, assault, molestation or inappropriate touching. Another one is psychological violence that has to do with harassment, bullying, causing fear, stress or shame. Others are the physical violence which involves beating or fighting leading to injury or death and socio-cultural violence that has to do with social-ostracism, discrimination, social norms with negative impacts, all are encountered by women or young girls as they wait till dark hours to go and defecate in long distance areas, and this scenario according to Okoli, (2021) speaks why 67%of adult females in Nigeria in 2012 survey felt not very safe or totally unsafe in their defecating practices.

Sequel to the above, studies have also cited evidence in India to show how women who defecate in the open fields experience several tangible threats to their privacy and dignity throughout their life time. In one of the studies conducted in Odisha, India, 44% of the participants expressed the trauma of finding a suitable place to defecate in open fields and expressed indignity over holding off defecation or urination when men or vehicles come within reach of their defecation sites. The findings of the study presented that nearly all the participants, 51 out of 56 women and girls, disproportionately expressed the fear of being watched or touched by

men in absence of a toilet in their home, (Sahoo, Hulland, Caruso, Swain, Freeman & Panigralin, 2015).

Social Impact of Open Defecation

In a study by Azeez, Negi & Mishra (2019), one of the respondents expressed her feeling while defecating openly thus; "it is an awful feeling as people stare at us, they make very rude facial and non-verbal expressions. To avoid this, we try to make our visits in the early morning or late evening. Another, respondents expressed her own feelings in this way; fear of being seen by someone makes me worried. I am always scared while defecating. I usually try my best to make sure that no one is around, but still, it often happens that people pass nearby, this makes me tense; I feel that they might have seen my nakedness. I feel humiliated and it affects my honour."

On the issue of impediments to women's accessibility to improved toiled system, Osumanu and Kosoe (2019), contended that financial constraints present two challenges. First, it inhibits house owners from the provision of household toilets and secondly, it causes people's inability to afford fees charged by public toilet operators. This implies that if a household cannot afford to construct a toilet facility, they will practice open defecation. Affordability in the context of sanitation focus, opportunity, ability and motivation (SaniFOAM) according to Devine (2009), is one's ability to pay for a sanitation product or service or to engage in a sanitation behaviour (Foreit & Foreit 2000). Affordability can be influenced by many factors, including household income, availability of cash in time or in a year, access to credit and availability of suitably priced sanitation options in the area. Affordability can be real or perceived. In the latter, knowledge of the true costs of a latrine may be an associated factor. Assessments of wealth are estimated across all reports of (SaniFOAM) and this indicated that those without latrines tend to be poorer than those higher on the sanitation ladder. However, both open defecators and latrine owners consistently mentioned cost as a barrier to building and upgrading toilet facilities.

Socio-Economic Impact on Open Defecation Practise

In Tanzania, Open defecators cite lack of finances, insufficient funds, "too expensive" "don't have money" as key barriers to building latrines or making improvements. Latrines are perceived as expensive to construct, especially when associated with cement or deeper pits. Latrines are also perceived to be more expensive to build in certain seasons, such as during the rainy season when construction is perceived as more challenging due to flooding and such is a common case in the riverine communities. There are also challenges of accessing credit or loans to pay for latrines, among poorer households (Ezeagwuna, Okwelogu, Ekejindu, Ogbuagu, 2009; Sarah & Graham 2014). Again, lack of access to finance in most cases is the primary reason why people who do not have a latrine practice open defecation. Such lack is due to cash income on the part of economically poor families. It has been observed that construction of toilet facility costs very highly for economically poor families in Tanzania, hence unaffordable to them (Sarah & Graham, 2014). From the economic point of view, poor health status, which in turn leads to lower productivity, causing developing countries like Nigeria a substantial proportion of their GDP, which includes cost of healthcare, loss of income due to illness and time spent seeking for places to defecate. Lack of sanitation improvement contribute to poor household economics through reduced cost and loss of time (UNICEF/WHO, 2015; WHO, 2016). The middle wealth quintile reported the lowest

prevalence of safe faeces disposal which is at 46% and the proportion of households where children's faeces were left in the open which is essentially open defecation steadily decreased as wealth increased; that is, this practice was higher in the poorest households, (Nigeria Demographic Health Survey, 2013).

Such scenario is similar to what happens in riverine communities of Odi and Kaiama area of Bayelsa State Nigeria where cost of constructing a latrine was a barrier to its ownership (Sample, Evans & Cammargo-Valero, 2016).

Women find several difficulties when they have to defecate in the open. In the absence of toilet, women often have to hold out and wait for a female relative to accompany them to defecate in the open. Disposal of sanitary pads and changing during menstruation is extremely embarrassing and difficult for women in the absence of toilet. They are always fearful that men may see them and this makes them to face constant stress of finding a safe, yet scheduled spot for open defecation. (World Bank, 2017). It appears from the foregoing then that cost and nature of a particular environment one lives poses a barrier to the construction of toilet facility. Also, not easily accessing credit to construct improved latrine seems to pose a challenge in the ownership of latrine in Nigeria.

Cultural Challenges on Open Defecation

Another factor inhibiting women's access to improved toilet system is what is considered socio-cultural challenges. According to Jenkins and Scott (2007), the adoption of latrines in poor communities follows three behavioural patterns, preference, intention and choice. The third pattern, choice, is however based on the financial standing of the individual. Social norms which is the rules that govern how individuals in a group or society behave including behavioural standards that exist in the community for an individual to follow and the presence or absence of traditions and cultures that govern behaviour (Connell 2014; Fehr & Gachter, 2000) are also contributory factors of open defecation. Family members, peers and others in the community defecate in the open, making this a common behaviour that is rooted in culture and tradition and learned since childhood. Connell (2014) observed that in peers, open defecation is described as "The most natural thing" and he described the practice as traditional, habitual and part of one's daily routine and that these social norms are also held more strongly by open defecators.

Belcher (1978) reported that in Uganda, in the late 1940s, people are afraid to use latrines because their fixed location would provide sorcerers with easy access to their excreta for devilish purposes and faeces of one's own in contact with another could bring about "Spiritual contamination" hence defecating at random in the bush and surroundings was considered a safer alternative. The importance of traditional beliefs and perceptions in latrine use and open defecation was also amply demonstrated in Kumasi, Ghana, when (Cotton, Franceys, Pickford, & Saywell, 1995) reported that a householders refused to use a latrine became he was a Muslim and the latrine faced the direction of mecca. Similar-superstitious traditional beliefs have been reported by Water Aid (2008) in some communities in Burkina-faso and Mali as well as Tamale (Ghana) and for Idoma people in Nigeria.

Theoretical Framework

The study utilised Empowerment Theory as theoretical perspective to analyse the health and social effects of open defecation. The thrust of the theory according to Julian Rapport (1981) is that individuals, groups and communities lack of finance to construct an improve toilet facilities and poor knowledge of health risks associated with the practice (lack of formal education predisposing people to cultural leanings), make the practice of open defecation perhaps, to persist.

Empowerment theory is a good fit for understanding what constitute barriers to owning an improved toilet facility which invariably pushes people like women into practice of open defecation. This theory presents an important discuss on why open defecation had persisted in several communities. From the theory we could safely deduce that open defecation is not necessarily a choice by these communities but rather an unfortunate circumstance resulting from a vacuum which needs to be filled through empowerment. Also, the theory explained the fact that the gap or vacuum resulting into open defecation are multi-faceted such as knowledge and awareness. This is important considering that many may not be aware of the social stigma attached to the practice, rather they perceive it as convenience. Secondly, even within communities with sufficient awareness on dangers associated with open defecation, lack the finance to provide acceptable alternative means of defecation which will imply underutilization of their knowledge, they will be left with no option than continuing the practice. Rationally, it then implies that if individuals, groups and communities are empowered through finance and formal education, the practice of open defecation is likely to be reduced or eliminated as owning and using improved latrines will be encouraged. Similarly, there is a need to empower rural/urban dwellers with resources (knowledge and finance) through formal education, radio jingles, social media and other means of information to enable the people gain perceptive control over the practise, irrespective of cultural inhibitions, open air defecation is likely to be reduced or eliminated. This will in turn avail them unhindered opportunities to pursue their personal and collective goal of maintaining perfect health condition.

Research Design

Descriptive research method is used to describe characteristics of a population or phenomenon being studied. It does not answer question about how/when/why the characteristics occurred. Rather it addresses the "what" question or what happened. It also compares the results of a study against the existing norms, examples: investigating the type of relationship and patterns between two (2) variables.

Premise on the above, the issue of poverty as a result of lack of financial empowerment and ignorance to the health risk associated with open defecation occasioned by lack of proper education correlates with the defecation condition of Nigerian women and its associated social and health risk effects.

Discussions

The objective of this study was to access the level and strength of evidence concerning the social and health impacts of open defecation on women in Nigeria. It was affirmed that women that practice open defecation were exposed to various infectious diseases like diarrhoea, typhoid, cholera, hepatitis, low body mass index (BMC), low haemoglobin and other open

defecation related diseases that adversely affects reproductive capabilities unlike men who do not. This finding is in tandem with the assertion of Caruso, Clasen and Hadley (2017) who had earlier asserted that open defecation has not only caused a significant impact on women's and girl's health and safety, but has also negatively affected girl's attendance at school. After it was also established in the study that having to defecate in the open by women is an indication that they are not provided with adequate improved toilet facilities which has overreaching impacts on women's sanitation and menstrual hygiene management across their life stages. The above assertion is corroborated by a report by UNESCO (2010) which stated that in Africa, 1 in 10 girls miss school when menstruating, their attendance decreases when girls are not provided with toilets and the right WASH facilities.

It was also opined that the negative experiences both external such as gossip as well as internal such as guilt or shame which women go through as they embark on open defecation have a long-term impact on mental health and well-being of the women. This situation was exacerbated by the physical violence as rape, assault or sexual harassment the women face as they involve in open defecation practice. The study by Corburn (2015) found similar circumstance with women negative experience by further asserting that open defecation puts girls and women in a vulnerable position due to the fact they have to travel long distances from their house to find a private open place to defecate and manage their menstrual necessities. As a result, there is an increase in vulnerability to violence, such as, verbal, physical, and sexual attacks which affects women and girls physically and psychologically.

Studies had also shown evidence of several tangible threats to the privacy and dignity of women caught in open defecation practice (UN 'n.d'; The Guardian, 2017; Brand, 2020). This study had also expressed the impact of cultural norms on women's defecation practice; where it was maintained that financial and cultural constraints inhibit women's access to improved toilet facility. Evidences abound in the study on how daunting situations of poor sanitation in lower middle-income countries like Nigeria promotes poor health in women; which has long term negative effects on their psychological well-being. The problem of open defecation in low- and middle-income countries where lack of resources and limited national budget towards sanitation interventions can obstruct the path to provide adequate sanitation facilities to the entire vulnerable population like women. The study by Mahrukh, .Teresa, Vanessa. (2019) supported the findings on challenges associated with open defecation in developing society. Their study found that in low-income countries, open defection increased risk of sexual exploitation, threat to women's privacy and dignity and other psychosocial stressors were linked to open defecation, which clearly present a serious situation of poor sanitation in rural communities. The authors equally identified that open defecation promotes poor health in women with long-term negative effects on their psychosocial well-being. In addition to the problem of finance as an impediment to women's access to quality sanitation facility like toilet that meets their health needs, women and girls are often disadvantaged because of different socio-cultural aspects of life that deny them equal rights with men. All these made it very difficult for the vulnerable population like women to assess quality sanitation facilities for their additional need for privacy, dignity and safety when it comes to their personal sanitation unlike men.

Conclusion

Open defecation is a practise that is associated with too many diseases, suffering, dishonour, and other psycho-social problems that women have to go through in their life time. It is a

practice that has attacked the physical, mental and social well-being of women mostly in developing countries like Nigeria. Also, given the social restriction of conservative societies through their socio-cultural norms which bound women from constructing or discussing the issue of toilet construction in an event where there are no toilet facilities, women who practice open defecation are faced with sense of deep shame and loss of personal dignity if indecently exposed to men outside their home. This study also posited that open defecation largely persist in low- and middle-income countries where lack of resources obstruct the path to provide adequate sanitation facilities to vulnerable population like women. With the forgoing situation in mind concerning defecation practices and women, further studies are critically required to understand in details, the economic implications and empirical studies on the issue of open defecation on Nigerian women.

Recommendations

To be able to overcome most of the challenges outlined above, it is imperative to institute the following measures.

1. Capacity building in resources mobilization for the provision of sanitation facilities in individual households and public places are needed either from the government or non-governmental organizations.
2. Promotion of local, innovative and affordable technologies for the constriction of latrines that is resilient to collapse and other challenges would be a step in the right direction in reducing open defecation among women.
3. There is need to shift from law enforcement apparatuses on open defecation and stress more on the elimination of some cultural beliefs that promotes open defecation practice in various communities.
4. Appropriate educational programmes and sensitization of women on the dangers of open defecation need to be made in communities where it is prevalent.

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