Available online at www.rajournals.in
RA JOURNAL OF APPLIED RESEARCH
ISSN: 2394-6709
DOI:10.33826/rajar/v6i5.02
Volume: 06 Issue: 05 May-2020
International Open Access
Impact Factor- 6.595
Page no.- 2680-2686

# Exploring the Psychosomatic Effects of Halitosis among Married Nigerians Living in Gloucestershire England

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**ARTICLE INFO**

Published Online: 28 May 2020

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**ABSTRACT**

**Background:** Halitosis (breath malodour) is a condition that has both health and social implications. The origin of breath problems are related to both systemic and oral conditions. Modern social norms emphasize the importance of personal image and interpersonal relationships. Consequently, breath malodour may be an important factor in social communication and therefore may be the origin of concern not only for a possible health condition but also for frequent psychological alterations leading to social and personal isolation. This is the first study that examined the psychological implications of breath malodor among Nigeria couples living abroad as a cultural perspective.

**Aims:** The aim of this study is to determine the psychological and sociological effects of halitosis in intimate relationship and within the context of the social environment.

**Method:** The research philosophy for the study was phenomenology, and data collection was based on a face to face interview. Thirty-Six couples living together with halitosis either in the man, woman or both was purposely sampled among Nigerians resident in Gloucestershire England. Participants were sampled from the Faith Tabernacle Church and St Peters Catholic Church, the two biggest African churches in Gloucestershire. Data analysis was coding and thematic.

**Results:** The findings of the study indicated that halitosis both real and imaginary can be an obstacle in the intimate psychological and social relationship between husband and wife in particular, while in the social environment, it creates stigmatization, social isolation and labelling in the sufferer.

**Conclusion**: The findings of this study is the first of its kind among Nigerians living abroad and will provide a baseline data for further research within Nigeria, using a larger sample in a quantitative approach. However, the result indicated that oral health should be included in the primary health care and the interventions for halitosis should be focused towards psychological health, primarily by the use of cognitive behavioural therapy (CBT).

**KEYWORDS:** Halitosis, mouth odour, perception, assessment, psychosocial, married women, married men.

## INTRODUCTION

Halitosis, (bad breath, oral malodour) is an offensive odour exhaled by the mouth, nasal, facial or pharyngeal sinuses (Sanz et al, 2001, Rosenberg 1996: Delanghe et al. 1997). However, Rosenberg (2002) stated that in most cases (85-90%) of bad breath originated from the mouth alone. But Struch et al. (2008) stated that their study provided a clear evidence for an association between gastro-esophageal reflux disease (GERD) and halitosis. But according to Rahimi (2001) halitosis almost never arises from the esophagus, stomach or intestines, because the esophagus is normally collapsed and closed, but that an occasional belch may carry odour up from the stomach, but that the possibility of air escaping continuously is very remote.

This view was supported by Rayman and Almas (2008), who noted in their study that the vast majority of patients with halitosis, approximately (80- 90%), of it originate within the oral cavity and not from the stomach. Rosenberg, (2002) argued that most researchers considered the stomach as a very uncommon source of bad breath. However, the intensity of bad breath differs during the day, as a function of oral dryness, which may be due to stress or fasting, but

eating certain foods such as (garlic, onions, meat, fish and cheese), smoking and alcohol consumption will impact on breath odour (Knaan et al. 2005, Hawxhurt, 1987). More so, because the mouth is dry and inactive during the night, the odour is usually worse upon awakening (Knaan et al. 2005). However, the cause of halitosis is still incompletely understood (Rayman and Almas 2008).

Halitosis has a significant impact both personally and socially on those who suffer from it or hope they do (halitophobia or delusional halitosis) and is estimated to be the third most frequent reasons for seeking dental aid, following tooth decay, and periodontal disease (Loesche and Kazor 2002). Halitosis can be considered a social impediment, an important factor in social relations and can cause concern, not only related to health aspects, but also to psychochological changes that leads to social and personal isolations (Sanz et al. 2002). People suffering from halitosis creates a social barrier between themselves and their friends, relatives or colleagues at work (Bosy 1997). He noted that many of the subjects he interviewed for a research project confided to him that they talk with their faces averted. Individuals with real or perceived oral malodour are extremely sensitive to discriminating behaviour and usually interpret occurrences such as opening of windows or the placing of a finger across the nose as an indication that their mouth odour is at a socially unacceptable level (yaegaki, and Coil 1999). However, Masui, (1997) has proved that gestures such as covering the nose are usually not a reaction towards another person's malodour that this gesture are performed incidentally, often without any specific reasons, but they are misunderstood by halitosis patients. This misrepresentation and misinterpretation of other people's behaviour by the halitosis sufferer is because these psychological conditions are caused by psychosomatic factors such as social phobia.

On the cultural and ethnic impacts of mouth odour, (SIRC 2008) reported that mouth odour is not just a biological and psychological experience, it is also a social and cultural phenomenon. According to (SIRC 2008) the Bororo of Brazil, and the serer Ndut of Senegal associated personal identity with breath-odour, similar practices are found in Arab countries, where breathing on people as you speak to them signals friendship and goodwill and to deny someone your breath-smell conveys a shameful avoidance of involvement. Race and ethnicity therefor, is a marker for oral health status (Butani et al. 2008).

This study is focused on the Nigerian population that lives in Gloucestershire England. Halitosis for long has been identified among Nigerians and has been on the increase since then. According to(SIRC 2008) publication, reported that the Nigeria Songhay are drenched with perfumes to reduce mouth odour. Adesanya et al. (2007) reported that since ancient times till this day that the Yorubas of western Nigeria use chewing stick called pako to cure mouth odour. In their own study, Aderinokun (2000) noted that the increase of halitosis in Ibadan western Nigeria might be due to lack of access to oral health care and health educational intervention. Similarly, Roach (2009) reported a high rate of patients seeking help for halitosis at the university of Benin Dental Hospital in Nigeria. However, Bamigboye and Akande (2007), noted that the increase of halitosis in Nigeria might be linked to the increase of caries, gingivitis, and periodontal diseases. Although Ogunbodede et al. (2005) reported that an increase of diabetes in Nigeria may be responsible for the noted increase of halitosis among Nigerians. However, they noted that few studies exists on halitosis in Nigeria, and called for more studies so as to fill the gap in Knowledge.

Global epidemiology estimated that 90 million Americans or approximately 30% of the U.S population currently suffers from halitosis on a regular basis (Malcmacher, 2005). Similarly, 20-60% of the Americans suffers from chronic oral malodour, and approximately in half of these individuals, the problem becomes serious enough to create personal discomfort and social embarrassment (Bosy 1997, Brunette et al. 1998). On the other hand, over (20%-60%) of Canadians are suffering from chronic halitosis. Similarly, studies have indicated that in Asia, over 80 million people are affected with halitosis (Aquino, 2007), of which about 23% of Japanese population have chronic halitosis (Rosenberg, 1994).

**Study Setting**

The study was carried out in St Peters Catholic Church and Christ Faith Tabernacle Pentecostal Church in Gloucester England, among Nigerian citizens living in Gloucestershire. An ancient city in the West Midlands of England. Gloucestershire is a historic County mentioned in Anglo – Saxon Chronicle in the 10th Century. It has three main landscape areas; Cotswold, Royal Forest of Dean, and the Severn Vale. It contains seven County council area that include; the City of Gloucester, which is the administrative headquarter, with the famous Gloucester Cathedral in it. Others are Tewkesbury, Cheltenham, Cotswold, Stroud, Forest of Dean, and South Gloucester.

Gloucestershire is the first choice for African immigrants and refugees that are coming to England, because of its low cost of living, job opportunities and its proximity to three main British cities such as London, Bristol and Birmingham with their great universities. Nigerian communities are very prominent in all the seven Counties in Gloucestershire and hence the choice for the study.

**METHOD AND DATA ANALYSIS**

Convenience sampling was used to recruit 36 participants from St Peters Catholic Church and Christ Faith Tabernacle Church in Gloucester England. Sampling of participants was based on objective or subjective reports of mouth odour from either or both couple. Qualitative information was

collected regarding the perception and effects of mouth odour on four main domains based on semi structured open ended interviews. The four main domains of interest under psychosomatic impacts which constitute the objectives of the study includes:

1. Experience of stigma
2. Labeling
3. Depression
4. Feeling of guilt

The average interviews length was approximately 40 minutes and participants were compensated with snacks and drinks. I (Agwu M. E) transcribed the audio recordings verbatim and entered all transcriptions into qualitative data management software to facilitate data organization and analysis NV1V0, version 8.0 computer program (Burlington, 2008). However, the interviews were practically analyzed throughout the data collection process to inform data collection and to assess data saturation which was indicated when new interviews cease to add unique information regarding the categories and themes of interest according to Strauss, and Corbin (2008).
data saturation was achieved in the 36 participants. More so Strauss and Corbin (2008) grounded theory frame work informed the data analysis which included the major three primary processes namely open coding, axial coding and selective coding. Consequently, during the open coding phase, we examined the data for initial themes related to perception of halitosis and extensively coding the data to capture the breath of the participant responses.

Also the raw data was reduced to major themes that are very important to the participant's experience of halitosis. We also explored the relationship and interconnections between the primary themes during the axial coding phase. In addition we developed, defined and explained these themes and constructs during the selective coding stage. However the principal investigation (Agwu M.E), was the initial and primary coder for this analysis. Then, the researchers discussed emergent themes and patterns together, looked into possible alternative interpretations of the themes and seek to identify and select representative quotations. In additions, quotations included in this article were identified by a unique pseudonym to protect participants' identity. Participant's identity was disguised beyond recognition for confidentiality. Participants name and address was not recoded, what was important was their gender. For female participants, it was coded FP, and for male participants it was coded MP. In addition female participants was coded from 01 to 018. While male participants was coded from 019 to 036. By this means, the researcher was able to code the identity of the participants beyond recognition.

## RESULTS

The study sample (n = 36), 18 men and 18 women. The mean age was 40 years, median age 41years and a range between 23 and 58years. Men are found to be generally older than the women. The participants experience was organized into five themes and coded into five groups. From group A to group E. the themes that the data was organized are: experience of stigma; psychological impacts; sociological impacts; economic impacts; and medical impacts. The findings was explained under the above outlined themes or groups.

**Experience of Stigma and Labeling**

Participants narrated one bad experience after another of ill treatment from neighbors, friends and strangers alike. A 35 year old sales lady (FP, 05) recalled how people use to sit far from her during the church service and how people avoided coming close to her in any social gathering. Most other participants repeated this as their own experience. Another participant (FP, 011) recalled how she fought one lady in Nigeria where they are working because the lady called her smelling mouth. Another middle aged woman (FP (09) recalled with tears;
"I lost my first boyfriend that I loved with my whole heart, who was proposing to marry me then, just after few months of our relationship, he started to avoid me; he would not stay close to me or even kiss me". "It was after many years when our relationship ended that he wrote a letter to me that my mouth odour was suffocating him and hence he decided to end the relationship".

However, (FP010) maintained that her breath odour never lead to stigma from people or society because according to her, "I always put something in my mouth, either the African bitter kola, pepper mints, chewing gums or onions". Similarly, another lady, a 33 year old student (FP015) narrated with deep emotion how she was sacked without proper notice nor compensation as a receptionist in a lawyer's office in Nigeria because the management accused her of smelling mouth.

Most of these female participants, maintained that one of the main reasons why people avoid those that have malodour is because most people both educated and illiterates thought and believed that bad breath is infectious. As one participant a 26 year old diploma student (FP01) noted that in school, her fellow students not only that they will not like to come very close to her, but they also avoid her plates, spoons and cups. According to her;

"I broke down and cried for hours when one student was making mockery of me saying that bad breath is caused by HIV Aids infection".

In contrast to the female participants, fewer male participants (2%) reported problems with stigma and isolation in recounting their own experience. However, (MP 021) stated that one day when he had a quarrel with a woman living in their flat in Lagos Nigeria, the woman said to him "you stupid shameless man, see your mouth is

smelling like toilet”. But one male participant (MP 026) said that he would fight anybody who dares to insult him with a reference to his bad breath. Another male participant a 41 years computer specialist (MP 037) narrated his own experience that;

“Initially, I did not know that my mouth smells, I thought that people avoids coming very close to me because I smoke very regularly but when I begin to notice how people do turn their faces to the opposite side when I am speaking makes me to suspect that something was wrong and I was shocked when one day, I asked my wife if my mouth smells and she said that she notice it since but she have to endure it thinking that, “that’s how all smokers mouth smells.”

**Depression and Feeling of Guilt**

The commonest experience of most participants under this theme includes feeling of quilt, depression, resignation from job, anxiety, insomnia (lack of sleep) and loss of appetite. Most female participants noted that they feel guilty because people believe that bad breath is as a result of poor oral hygiene. According to (FP 02) and (FP 07) recounted how people were teasing them to go and brush their teeth. Even most male participants (MP 022, MP 033 and FP, 035) recounted their experience of how they too thought that bad breath is as a result of poor oral hygiene and have always being spending their time brushing their teeth and yet no improvement. Similarly, one male participant (MP 031) a motor mechanic, narrated how his wife always urge him to go and brush his teeth regularly and most of the time , this leads to quarrel between them.

According to (FP, 012, FP, 011 and FP, 015) noted that they brush their teeth more than six times a day because they perceived that they have mouth odour. One male participant (MP 036) recounted

“Before I thought that mouth odour is as a result of poor oral hygiene but I use to brush my teeth almost every minute and my teeth is as white as snow yet it smells very bad”.

However, most of the male and female participants (99%) agree that halitosis causes them too much worry, depression, anxiety and restlessness but none have ever thought of committing suicide because of bad breath. However, one lady lawyer who participated in the study (FP 017);

“I have never been depressed and never shall be depressed to the point of committing suicide because of halitosis and besides; I am an African woman so I consider suicide a sacrilege, I am a Christian so I consider suicide a sin and I am educated, so I consider suicide a waste”.

6 On the other hands, most male participants about (97%), recounted that the depression they feel is when they are close with their wife and when the odour become s unbearable and provocative, and yet their wife still have to endure without complain. Most of the female participants (93%) reported loss of appetite and insomnia (loss of sleep) more than their male counterparts (71%).

**Discussion of the Results**

This study shows that the stigma encountered with halitosis is as a result of ignorance of the general the public about the causes and consequences of halitosis. According to the participants account, most people thought that halitosis is infectious and that it is the origin of the stigma that is attached to halitosis. However, according to (Eli et al. 2001, Eli et al. 1996, and Iwakura et al. 1994) the stigma attached to halitosis is not caused by the society but that people who suffer from halitosis should be blamed because they spend their entire lives obsessed with the thought that others perceive them as having bad breath while in the actual sense they are suffering from halitophobia.

This study also shows that people who have halitosis are burdened with feeling of guilt and this is because according to one of the participants of this study (FP 012) stated that “people associate my bad breath as a sign of poor oral hygiene and that I do not brush my teeth daily.” this finding was contrary to the findings of (Butani et al 2008, Walt et al 1999) but supported the findings of Riedy et al. (2001) and Loesche (1985) that poor oral hygiene is not the main factor in bad breath. Our study also supports the finding of other studies (Iwukura et al. 1994, Mckeown, 2009, Eli et al. 2001, Fadhil and Mugonzibwe 2005) that halitosis obstructs social interaction with friends and family members as noted by (MP 019), that the thought of halitosis inhibits his sexual desires.

This study also proves that people who have halitosis and their friends and immediate family occasionally falls into psychological depression. This was supported by the findings of (Mckeown 2003, Fadhil and Mugonzibwe 2005, Eldarrat et al. 2009, Almas et al. 2005, Suzuki et al. 2008, Eli et al. 2001 and Bossy 1997) as one participant noted “Why should I not be depressed when I know that I did not belong to the society. This study did not agree that people can commit suicide or that halitosis can lead to suicide. However, the idea of someone with halitosis to commit suicide may be cultural or ethnic in origin.

Most of the participants in this study (FP 017) and (MP 036) noted that the idea of committing suicide is not in African culture and is generally regarded as sacrilege. However, (Bossy, 1997, Iwu and Akpata 1990, Toyofuko and Miyako 1995, Yaegaki 1995 and Rosenberg 1996) reported cases of suicide associated wuth halitosis. However, this is an area of future research whether there is proven suicidal ideation among halitophobics and if this has any cultural or ethnic orientation..

Although, some male participants in this study complained of psychological and physiological stress of staying close to their wives with their halitosis (MP 022) but there was enough evidence this study noted that halitosis could have

both psychological and sociological impacts on both husband and wife. This effect can also be part of its effect on the general public as a whole. Most participants (98%) agree for the discussion to be audio taped.

Participant's lives within a stone throw to each other and all are well known to me. They spoke very freely, sometimes sorrowfully and emotionally as they recounted how the society was unjust to them. All the participants corporate with the stated time for the interview and all the discussion took two days while the transcribed transcripts too two days to be put down on paper verbatim. This was returned to them to go through it before the final draft was written. What aided the speed of the study was that most of the

**Contribution to Knowledge on Halitosis:**

This is the first study of halitosis ever done using Nigerian couples. It provides a unique information that will stimulate more studies and have filled a gap in knowledge. People who have halitosis perceive that they are isolated, labelled and stigmatized because the society believed that halitosis is due to poor oral hygiene and extreme dirtiness, and most importantly they though that halitosis is infectious and therefore contaminable and can be associated with HIV. Also this study found that halitosis could lead to drug abuse, drug obsession and drug overdose. It has shown that those associated with halitosis have used different chemicals to rinse their mouth with personal adverse consequences to their health.

The perception of the male participants shows that halitosis can lead to a decreased sexual intercourse among partners and a loss of libido among the husbands. This study also noted that most of the psycho-social impacts of halitosis is due to ignorance of the general public as to the general /knowledge of what halitosis is all about.

**Implications of the Findings for Professional Practice**

Labelling, social isolation and stigmatization can have an adverse psychological effect on the affected person and with sympathy to him or her, his immediate family or partner may be subjected to the same psychological problem. With the experience and feeling of stigma, the affected person may seize to function socially, stop working, and spends all his life or her life in the hospital, this will affect the total well-being of that individual and this creates more health burden to public health. The experience of the male participants that halitosis leads to a loss of libido, if it is not addressed may lead eventually to a divorce or to a complete loss of sexual interest among the partners, increases the chances of having multiple sexual partners which may expose them to HIV (Aids) infection.

The psychological impacts of halitosis if it is not addressed, may degenerate to a psychiatric depression, which increases the hospital burden of taking care of those people which may lead the government to spend more money on the increased number of people collecting benefit due to mental disability. Public health and government policy should encourage public health campaign, health promotion and health education on oral health and halitosis. People should be made to understand that not only that halitosis is not most of the time caused by poor oral hygiene but should educate the general public that halitosis is not infectious and that it has nothing to do with HIV (Aids).

The government and public health authorities should be encouraged to change the health policy in favour of oral health. More dentists, therapists, psychologists and physicians should be trained and employed for oral health collaboration and there should be a way of integrating oral health, mental health and medical health. Patients with halitosis especially at an early stage should be encouraged to see the psychiatrist, psychologist, dental surgeon and dental therapist.

However, the more money budgeted to oral health should be used to build more oral health clinics and there should be oral health visitors as we have in health visitors and they should pay more attention to people that have halitosis. Moral, educative and encouraging health promotion and health education campaign should be organized for couples when one of them have is having halitosis. This campaign should be aggressive with a positive media backing, and should be used to explain to the couples more about halitosis, and about the fact that halitosis is not infectious, and that it can be treated, through medical and cognitive behavioural therapy.

**Limitations of the Study**

Participant's lives within a stone throw to each other and all are well known to me. They spoke very freely, sometimes sorrowfully and emotionally as they recounted how the society was unjust to them. All the participants corporate with the stated time for the interview and all the discussion took two days while the transcribed transcripts too two days to be put down on paper verbatim. This was returned to them to go through it before the final draft was written. What aided the speed of the study was that most of the

The quality of the findings of this study was limited by the cultural disorientation of some of the participants, some of the participants of this study have lived abroad for more than 30 years and this have a significant cultural impact on them. This is because some of the participants see marriage and divorce from the European point of view-without any strong attachment. They spoke freely about divorce, or avoidance of their wife sexual moves and advances due to felling of shame because they have halitosis, these actions if done or spoken of in Nigeria will be a taboo. We also recommend that this type of study should be done in Nigeria among Nigerians and with a larger number of participants.

Also, using the two spate churches to sort out the samples for the study affected me both psychological and morally. This is because despite the fact that I am a Roman Catholic, but I have to attend the church service of the Christ Faith

Tabernacle. I was pretending to be there but my main aim was to prove to them that I am their member so that I can also get some participants for the study from among them. This also affected the time I should have used for other things. So I will advise in the future that one should try to have a solid population from one source from where it can be easy to sort out the samples for a study. Also, this study was limited in scope buy the use of only qualitative method without triangulation and this should be addressed in a future study.

## RECOMMENDATIONS

### Recommendations for Practice

In this study part of the findings is that lack of public awareness of what halitosis is, its aetiology and prognosis, constitutes the social labeling and stigmatization to people who have halitosis. This ignorance by those affected by halitosis and the general public should be confronted with massive public health education and health promotion. Both government and public health departments should initiate oral health public awareness campaign. People should be made to know that halitosis is not infectious and not contaminable. Also, public health should initiate health visitors for oral health that will help to educate people more about halitosis and the effects and implications of stigma. Also public and government health policy towards oral health must change so as to vote more money for the training of more therapist and more dental clinics should be located where people should be taught oral hygiene.

Health visitors should speak to husband and wife about halitosis and the important of oral hygiene. We recommend that oral health should be included in the primary health care and patients with halitosis must be given the opportunity to consult other health specialists like psychiatrists, physicians, psychologists, dentists and dental therapist. Early motivations should be given to those who have halitosis and together with their immediate families.

### Recommendations for Further Research

We recommend that this study should be repeated in the future using both qualitative interview and focus group discussion. Secondly, there should be more studies in the future to investigate the stigma that is associated with halitosis whether it arises from people's believe that halitosis is infectious and contaminable or from the sufferer who may wrongly believe that halitosis is due to poor oral hygiene and thus be feeling guilty. Thirdly, more studies should be done to know if the extreme cases of halitosis called halitophobia may have any relationship with deteriorating cases of mental health. Fourthly, there should be more studies in the future about the best and most effective ways of motivating patients with halitosis and how to motivate them to live normal lives.

## CONCLUSION

This study has shown that halitosis is a stigma to the sufferers and this constitute the basic cause of both psychological and sociological impacts to the sufferers. This study has also shown that halitosis has both psychological and sociological effects to friends, immediate family and partners of those affected with halitosis. Qualitative study based on face to face (semi-structured) in depth interview was an ideal research method for a phenomenological study of this type. However, this type of study in the future should be expanded and triangulated with a questionnaire or with a focused group discussion which should include the sufferers, members of their immediate family or partners, dentist, social workers, psychologists, and psychiatrists. It is assumed that a detailed study of this very sensitive topic with all stakeholders will be more reliable and more useful for evidence-based practice.

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