
DIFFERENCES IN EVOKED EMOTIONS, FEELINGS AND REACTIONS TO BODY AND MOUTH ODOUR

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ABSTRACT

Objective: To compare evoked emotions, feelings and reactions to body and mouth odour among undergraduates.

Methods: This questionnaire-based cross-sectional study was conducted among undergraduates of the University of Benin, Benin City, Nigeria.

Results: Nearly one-quarter of the participants reported taking into account body odour (23.3%) and mouth odour (24.7%) on meeting people on often/always basis. About half of the participants stated being very disgusted on perception of body odour (52.7%) and mouth odour (52.0%). About one-quarter (24.0%) of the participants expressed anger when in contact with someone with body or mouth odour. About two-thirds (64.5%) and 76.0% of the participants reported being slightly/very unhappy having a classmate/roommate with body or mouth odour respectively. About 12.0% and 12.7% agreed that students with body and mouth odour respectively should be expelled from the university. Assessing reactions to someone with body or mouth odour in a commercial vehicle; 13.3% versus 10.7% changed position and 7.3% versus 8.7% dropped off the vehicle respectively. The majority of the participants felt that body odour or mouth odour negatively influence good employment potential, marriageability and marital relationship but there was no difference. Low proportion of the participants reported avoidance behaviour as their preferred way to help someone with body (10.0%) or mouth (9.3%) odour.

Conclusion: Data from this study revealed no differences in the evoked emotions, feelings,

perceptions and reactions toward body and mouth odour sufferers among the participants.

Keywords: Emotions, feelings, body odour, mouth odour, reactions.

INTRODUCTION

Olfaction helps humans in locating food for survival, appreciating food flavour for the palatability and mate selection for procreation.¹ It also assists in individual recognition, kin detection, impression formation and societal life promotion.²⁻⁴

Offensive odour constitute a huge impedance to social interaction by hampering attractiveness, pleasantry and seduction wishes. These offensive odour may be a general body odour or mouth odour. Body odour unpleasantness was generally associated with socially undesirable traits while oral malodour evoked a sickening feeling.⁵ Freedom from disabling odour possibly mouth and possibly the body is one of the indicators of social well-being.⁶ Artificial fragrances have been used for thousands of years to manipulate odour intensity and pleasantness to enhance attractiveness in a complementary fashion.⁷⁻⁹ Perception of pleasant odour plays significant roles in human interaction as in terms of acquaintances, friendship, dating relationship and marriage. Studies have evaluated reactions to body and mouth odours independently but none has compared evoked emotions, feelings and reactions to body and mouth odour.^{5,10-14} Hence, the objective of this study was to compare evoked emotions, feelings and reactions to body and mouth odour among undergraduates of the University of Benin, Benin City, Nigeria.

MATERIALS AND METHODS

This cross-sectional study was conducted

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among Undergraduates of the University of Benin, Benin City, Nigeria. The data collection tool was self-administered validated questionnaire. The questionnaire elicited information on demographic characteristics, contact with body and mouth odour sufferers, evoked emotions, feelings and reactions to body and mouth odour, perceived social effects and perceived ways to help body and mouth odour sufferers. The questionnaires were hand delivered. Informed consent was obtained from the participants. Participation was voluntary and no incentive was offered. The importance the participants

TABLE 1: DEMOGRAPHIC CHARACTERISTICS AMONG THE PARTICIPANTS

Characteristics	Frequency	Percent
Age (years)		
16-20	42	28.0
21-25	74	49.3
>25	34	22.7
Gender		
Male	92	61.3
Female	58	38.7
Course of study		
Science-related	78	52.0
Non-Science-related	72	48.0
Level of importance attached to own body		
Low	20	13.3
High	130	86.7
Level of importance attached to body of others		
Low	67	44.7
High	83	55.7
Level of importance attached own mouth		
Low	19	12.7
High	131	87.7
Level of importance attached to mouth of others		
Low	52	34.7
High	98	63.3
Total	150	100.0

TABLE 2: FREQUENCY OF CONTACT WITH BODY OR MOUTH ODOUR SUFFERERS AMONG THE PARTICIPANTS

Variable	Body odour	Mouth odour	P-value
Exposure to sufferer			>0.05
Yes	106 (70.7)	110 (73.3)	
No	44 (29.3)	40 (26.7)	
Any sufferer as relative			>0.05
Yes	45 (30.0)	75 (50.0)	
No	105 (70.0)	75 (50.0)	
Frequency of taking into account, body or mouth odour on meeting people			>0.05
Never	45 (30.0)	46 (30.7)	
Almost never	35 (23.3)	31 (20.7)	
Sometimes	35 (23.3)	36 (24.0)	
Often	12 (8.0)	15 (10.0)	
Always	23 (15.3)	22 (14.7)	

attached to their own body, body of others, own mouth and mouth of others were assessed using a single-item on a scale of 0-10, where 0 meant not important and 10 very important. This importance scale was a modification of the one used in a previous halitosis study.¹⁵ A higher score indicated a higher attachment of importance. The scores were categorized into

low and high importance based on score 0-5 and 6-10 respectively. The obtained data was subjected to McNemar's test using IBM SPSS version 21.0. Statistical significance was set at P<0.05.

RESULTS

The majority of the participants were 21-25

TABLE 3: EVOKED EMOTIONS AND FEELINGS AMONG THE PARTICIPANTS

Variable	Body odour	Mouth odour	P-value
Perception of sufferer			>0.05
Very disgusting	79 (52.7)	78 (52.0)	
Slightly disgusting	64 (42.7)	67 (44.7)	
Not disgusting at all	7 (4.7)	5 (3.3)	
Feeling toward sufferer			>0.05
Anger	36 (24.0)	24 (24.0)	
Sad	18 (12.0)	16 (10.7)	
Indifferent	43 (28.7)	48 (32.0)	
Sympathetic	53 (35.3)	62 (41.3)	
Emotional reaction towards sufferer			>0.05
Very unhappy	2 (1.3)	4 (2.7)	
Slightly unhappy	95 (63.3)	110 (73.3)	
Not happy not unhappy	32 (21.3)	22 (14.7)	
Slightly happy	10 (6.7)	10 (6.7)	
Very happy	11 (7.3)	4 (2.7)	
Support expulsion of sufferer from University			>0.05
Strongly agree	13 (8.7)	16 (10.7)	
Agree	5 (3.3)	3 (2.0)	
Disagree	90 (60.0)	89 (59.3)	
Strongly disagree	42 (28.0)	42 (28.0)	
Total	150(100.0)	150(100.0)	

TABLE 4: PERCEIVED REACTIONS TOWARDS SOMEONE WITH BODY OR MOUTH ODOUR IN A COMMERCIAL VEHICLE AMONG THE PARTICIPANTS

Variable	Body odour	Mouth odour	P-value
Do nothing	64 (42.7)	56 (37.3)	>0.05
Inform the sufferer about it and tell the person to go clean up	2 (1.3)	14 (9.3)	
Inform the sufferer about it and tell the person to seek urgent solution	11 (7.3)	9 (6.0)	
Close my nose	6 (4.0)	4 (2.7)	
Put my nose out of the window	36 (24.0)	38 (25.3)	
Change position in the bus	20 (13.3)	16 (10.7)	
Drop from the bus	11 (7.3)	13 (8.7)	
Total	150 (100.0)	150 (100.0)	

TABLE 5: PERCEIVED SOCIAL EFFECT OF BODY OR MOUTH ODOUR AMONG THE PARTICIPANTS

Variable	Body odour	Mouth odour	P-value
Difficulty getting good jobs			>0.05
Yes	91 (60.7)	91(60.7)	
No	59(39.3)	59(39.3)	
Difficulty getting married			>0.05
Yes	92 (61.3)	97 (64.7)	
No	58 (38.7)	53 (35.3)	
Experience marital disharmony			>0.05
Yes	92 (61.3)	92 (61.3)	
No	58 (38.7)	58 (38.7)	
Total	150 (100.0)	150 (100.0)	

TABLE 6: PERCEIVED WAYS TO HELP BODY OR MOUTH ODOUR SUFFERERS AMONG THE PARTICIPANTS

Variable	Body odour	Mouth odour	P-value
Perceived ways to help someone with body or mouth odour			>0.05
Inform them	125 (83.3)	126 (84.0)	
Tolerate them	10 (6.7)	10 (6.7)	
Avoid them	15 (10.0)	14 (9.3)	
Perceived ways to help a friend with body or mouth odour			>0.05
Advice the person to seek urgent solution	132 (88.0)	131 (87.3)	
Maintain my relationship	11 (7.3)	13 (8.7)	
Stop relating with the person	7 (4.7)	6 (4.0)	
Total	150(100.0)	150 (100.0)	

years old (49.3%), males (61.3%) and studying science-related courses (52.0%). A majority of the participants reported high importance to own body (86.7%), body of others (55.7%), mouth (87.7%) and mouth of others (63.3%) (Table 1). The contact experience with individuals with body odour was 70.7% while that for mouth odour was 73.3%. Three-tenth (30.0%) reported having relatives with body odour while 50.0% reported mouth odour in relatives. Nearly one-quarter of the participants reported taking into account body odour (23.3%) and mouth odour (24.7%) on meeting people on often/always basis (Table 2). About half of the participants stated being very disgusted on perception of body odour (52.7%) and mouth odour (52.0%). Nearly one quarter (24.0%) expressed anger when in contact with someone with body odour or mouth odour. About two-thirds (64.5%) of the participants reported being slightly/very unhappy

classmate/roommate with body odour while 76.0% slightly/very unhappy classmate/roommate with body odour. About 12.0% and 12.7% agreed that students with body and mouth odour respectively should be expelled from the university (Table 3). Assessing reactions to someone with body odour or mouth odour in a commercial vehicle, 8.3% informed the body odour sufferers while 15.3% for the mouth odour sufferers. About 13.3% versus 10.7% reported position change and 7.3% versus 8.7% dropped off the vehicle as reaction to body odour and mouth odour sufferers (Table 4). The majority of the participants felt that body odour or mouth odour negatively influence good employment potential, marriageable and matrimonial relationship but there was no difference (Table 5). Avoiding someone with body odour (10.0%) or mouth odour (9.3%) was the preferred way to help the sufferers.

DISCUSSION

In this study, a reasonable population of participants claimed to have had contact with individual with body and mouth odour with a significant proportion of them reporting exposure to body and mouth odour being from relatives. This may imply that both body and mouth odour are of high prevalence in the study setting or that participants in this study are highly sensitive people as they dominantly attached high level importance to their body and mouth and those of other people.

The agreement with expulsion of students with body and mouth odour among approximately one-eighth of the participants may be explained by the different degrees of unhappiness expressed on having a roommate or classmate with body or mouth odour. The high prevalence of negative emotions of anger and disgust which is an emotional response of revulsion to something considered offensive, distasteful, or unpleasant among the participants may be the additional explanation. Pleasant and unpleasant odour perception influence on cognition and emotion have been reported in terms of mood improvement, anger reduction, working memory impairment and facilitated recognition of disgust facial expressions.¹⁶⁻²⁰

Contact with body odour or mouth odour sufferers in a commercial vehicle trigger varied reactions from the participants ranging from informing the person, tolerating the person, changing position to outright drop off the vehicle. Appreciable number informing the sufferer may be explained by the finding that many Nigerians in study wish to be informed if they have mouth odour because they believe that letting them know will be very helpful.²¹ The fact that majority of the participants in this study reported readiness to inform friends and non-friends with body odour or mouth odour about the condition as a way to help them is a welcome development in healthcare as this will facilitate their seeking care for the condition. The tendencies of an odour sufferer to be unaware of the condition is high because adaptive ability of

olfactory function of nose thus alert the affected person will possibly prompt improved self-care and professional consultation. Avoidance behaviour as a perceived way of help body odour or mouth odour sufferer was also reported. The need to educate the populace on the positive effects of informing odour sufferer about the condition outweighs the negative consequences.

The majority of participants opined that individuals with body or mouth odour will have difficulty getting good jobs, getting married and face marital disharmony if married. This may be related to the fact that faces are rated as significantly less attractive when presented with an unpleasant ambient odor in comparison to the no-odor condition and that fragrance affect impressions of people in professional contexts.²² Occupational implication of mouth odour was highlighted in a Libya-based study²³ which reported difficulty in interacting with mouth odour sufferers at workplace. Difficulty getting married among body or mouth odour sufferer opined by majority of the participants in this study may be explained by the dating difficulties reported 29.9% of individuals with self-reported halitosis due to relational difficulties.²⁴ Sagging or spacing in the relationship between partners reported in a study as impact of mouth odour on the marital relationship concurred with the belief of this study participants on adverse effects of body odour or mouth odour on marital relationship.¹⁴

CONCLUSION

Data from this study revealed no differences in the evoked emotions, feelings, perceptions and reactions to body and mouth odour sufferers among the participants. Further studies on comparison of the intensity of body odour with mouth odour on the evoked emotions feelings, and reactions is however recommended.

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