Family Medicine and Community Health

Effect of BATHE interview technique on patient satisfaction in an ambulatory family medicine centre in South India

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ABSTRACT

Objective The objective of the study is to determine the effect of background, affect, trouble, handling and empathy (BATHE) versus usual interview technique on patient satisfaction during regular consultation with family physicians in ambulatory care.

Design The research design was a prospective, randomised control trial.

Setting The trial took place in a family practice unit in South India, which was one of the clinical service units of the academic Department of Family Medicine of a tertiary hospital.

Participant The eligible participants were adults above the age of 18 years, who did not have any acute presenting illness. The participants should have given consent and also not have any cognitive disability. A total of 138 participants took part in the trial, 70 in BATHE group and 68 in the non-BATHE group. All participants entering the trial completed the questionnaire.

Result The BATHE group had a significantly higher mean score for questions grouped under professional satisfaction. This included questions on whether the patient felt that the physician treated them as a person and also whether they felt the appropriate clinical examination was communicated to them. The questionnaire used for scoring satisfaction had 18 questions with a maximum possible score of 90. When taking a cut-off of 75% (68) from the total possible score of 90, 72.9% (51) of the participants for whom the BATHE consultation technique was used were satisfied as compared with only 55.9% (30) for whom the routine consultation was carried out. This was statistically significant (χ^2=11.15, p value=0.0006)

Conclusion The study suggests that using BATHE in this family practice centre is beneficial in improving the perception of person centeredness in the consultation. However, further studies ruling out all possible bias are needed in our setting before the range of probable benefits of the BATHE technique can be fully gauged.

Key points

- Question: What is the effect on patient satisfaction when the physician used an interview tool called BATHE (background, affect, trouble, handling and empathy) in an ambulatory family medicine practice in South India?
- Finding: we randomised the family physicians in the practice unit to use BATHE tool or not in their consultation. The patients who gave consent to the study had a patient satisfaction questionnaire administered to them after their consultation. We found that the satisfaction related to professional care and perception of patient centeredness was significantly higher in the patient group who had BATHE implemented in their consultation. However, BATHE tool was not a significant predictor of increased overall patient satisfaction score.
- Meaning: through this study, we document that it is possible to implement the BATHE tool in a busy family practice unit in India. It did not affect the perceived time spent in the doctor–patient consultation. Moreover, there was a heightened perception of patient centeredness, which is valued highly in any family practice. We suggest that this tool should be implemented in other models of family practice centres in India before establishing its utility in improving overall patient satisfaction.

INTRODUCTION

Psychosocial issues inclusive of personal, interpersonal, familial, societal and cultural events in an individual's life determine how an individual responds to adverse life events like deterioration in their health.[1] Around 17%–46% of patients who attend primary care facilities have psychological issues related to mental health conditions like depression and anxiety.[2] Family physicians face the challenging task of addressing the clinical, social and psychological contexts of their patients and treating their emotional problems and common psychiatric illnesses.[3] Understanding and addressing the psychosocial issues along with medical problems to provide patient-centred care are shown to improve patient satisfaction, compliance and holistic care.[4] Family physicians need tools to address these issues during their regular consultations.[5]

Background, affect, trouble, handling and empathy (BATHE), developed by Stuart and Lieberman, is a rapid intervention tool for the

Table 1 BATHE—the five components and their respective questions

B=background	What is going on in your life?
A=affect	How do you feel about that?
T=trouble	What about the situation troubles you the most?
H=handling	How are you handling that?
E=empathy	Closing statement: That must be difficult for you or an appropriate alternative of a similar nature

assessment of psychosocial factors in primary care.[6] The first four components consist of a series of questions that are asked by the physician inter-woven with the history of presenting report. The fifth question is an empathetic reflection by the doctor at the patient's expression of psychosocial issues (table 1). The BATHE technique needs to be practised, just like any other aspect of medical history taking. The developers of this technique state that its mastery would enable the primary care practitioner to demonstrate patient centeredness and empathy while eliciting the psychosocial history at the same time. The simple BATHE technique aids the busy clinician to comprehensively manage the patient who may either be overly talkative or reticent.

The BATHE technique is helpful for counselling patients with psychosocial stressors and behavioural issues related to family life stages. The pioneers of this technique insist that it would take only 5–7 min to complete and would thus easily fit into the routine 10–15 min consultation slot of the family physician. Moreover, they recommend implementing this technique for every patient.[7] Since the emergence of this technique in 1986, it has been described and recommended for routine primary care consultations in many articles in the USA, UK and Canada.[8–11]

There is a paucity of literature in the subject of evaluation of the impact of BATHE technique either on patient satisfaction or outcomes of addressing psychosocial issues. Studies done in the USA in outpatient and inpatient care had demonstrated improved patient satisfaction when BATHE was used.[12 13] A small-scale study done in Korean ambulatory care reported an increased level of patient satisfaction as well.[14] Additionally, a randomised control trial done in Turkey employing BATHE in patients with diabetic described improvement in Diabetic Empowerment Scale.[15] However, there have been no reports of the application of this technique in India. Our study aims to add to the primary care research base for the use of BATHE in day to day consultations.

METHODS

Setting and participants

This study was conducted during January to February 2019, in Shalom Family Medicine Centre, an ambulatory service unit of the Department of Family Medicine at Christian Medical College, Vellore, India. The unit typically has 180–200 patient visits in 1 day. Usually, it is staffed by three physicians everyday, two of whom are trained family physicians and one is a doctor who has completed MBBS (Bachelor of Medicine and Bachelor of Surgery) or a postgraduate family medicine resident. One among the trained family physician has consultations for the entire day on all days of the week, whereas the second family physician is posted in a roster of half-day schedule. The family physicians who consulted in the clinic were made aware of the BATHE technique and the study protocol in two academic sessions.

The sample size calculation was done based on the improved overall satisfaction score reported in the Korean outpatient study after implementing BATHE tool.[14] A minimum alpha error at 1% and maximum power at 90% for a two-sided test gave a sample of 32 patients to be randomly assigned to BATHE or non-BATHE techniques, respectively. The authors opted to enrol double the sample size. This was to ensure enough data for subsequent analyses and to give an opportunity for all the family physicians in the centre to be randomised and implement BATHE. The inclusion criteria were clinically stable patients above 18 years who consented to be part of the study and agreed to fill a patient satisfaction questionnaire after the doctor's consultation. Patients who were acutely ill and those who needed immediate care and patients with cognitive decline were excluded. The patients in our family practice centre chose the family medicine consultant whom they wished to see in any particular day. Thus, the patients who consulted the physician randomised to use BATHE that day would receive the intervention. At the start of the working day, the consulting family physicians (two in number) were randomised to use BATHE or not in all the patients who had appointments to see them. They would not know which patient had given consent to be part of the study. The patient would not know whether they had the intervention or not. Following the consultation, an independent blinded observer assisted patients in filling the patient satisfaction questionnaire.

Data collection and analysis

The questionnaire used to measure patient satisfaction was the Consultation Satisfaction Questionnaire (CSQ), which was an 18-item instrument that had been evaluated extensively and found to have good reliability and validity.[16] The CSQ has questions which are grouped into four scales. Three questions were grouped into general satisfaction with the consultation, seven with the experiential aspects of professional care (eg, the clinical examination, explanation about the treatment, being treated as a person), five questions were grouped under the depth of relationship (feeling confident to share personal information, physician demonstrating understanding of the patient) and three questions covered the perceived length of the consultation.[17]

The response to each question is on a 5-point Likert-type scale extending from 'strongly agree' to 'strongly disagree'. The questionnaire also included an open question asking for any other comment about the consultation. Additionally, the questionnaire included demographics of patients and physicians along with the nature of the visit (routine follow-up for a chronic condition or an acute care visit) and the number of previous visits to the same physician.

The software used for data entry and analyses was EPI data V.3.0 and SPSS V.16. While analysing the response of the CSQ, questions with positive response were scored as 5 for 'strongly agree' and in questions with the negative response, the score of 5 was given for 'strongly disagree'. Thus, the maximum possible score in the CSQ was 90. The research team decided that patients scoring more than 68 (75%) would be classified as satisfied with the consultation.

Baseline sociodemographic characteristics of both groups were compared. The difference in mean scores when using the BATHE technique versus non-BATHE technique was calculated using the Mann-Whitney U test and the significant value was taken as $p<0.05$. Factors affecting satisfaction scores were studied using linear regression.

RESULTS

Around 70 patients were enrolled in the BATHE group compared with 68 in the non-BATHE group (table 2 and figure 1). Most patients in both groups were between 31 and 60 years. There was a higher proportion of female patients in the non-BATHE group with an equal proportion of male and female patients in the BATHE group. Patients in the BATHE group had a higher number of previous visits to the centre with the mean (SD) and a median of 9.6 (5.2) and 10, ranging from 0 to 20 visits. On the other hand, many patients in the non-BATHE group had visited the centre for the first time with the mean (SD) and the median number of 5.9 (5.1) and 4, ranging from 0 to 15 visits.

Patients in both groups were seen by family physicians with a minimum of 10 years experience. A higher proportion of patients in the BATHE group was seen by male physicians (85.7%, p value 0.001), consulted the same physician (65.8%, p value 0.004) and for regular care of chronic diseases (64.3%, p value 0.062) (table 2). On the contrary, patients with non-BATHE group had a higher proportion of consultation with female physicians with equal distribution of chronic disease follow-up (48.5%, p value 0.062) and acute care visits (51.5%, p value 0.062), predominantly seen for the first time.

The total satisfaction mean rank scores (BATHE=76.7, non-BATHE=62.1, p value 0.03), professional care satisfaction mean rank scores ((BATHE=79.1, non-BATHE=59.7, p value 0.003) and the depth of relationship mean scores (BATHE=76.8, non-BATHE=62.0, p value 0.003) were significantly higher among the BATHE consultation group than the non-BATHE consultation group. There was no significant difference in the general satisfaction scores (BATHE=67.5, non-BATHE=71.5, p value 0.52) and the perceived time spent (BATHE=69.3, non-BATHE=69.8, p value 0.94) between the two groups (table 3).

When taking a cut-off of 75% (68) from the total possible satisfaction score of 90, 72.9% (51) of the participants for whom the BATHE consultation technique was used were satisfied as compared with only 55.9% (30) for whom the routine consultation was carried out. This was statistically significant (χ^2=11.75, p value≤0.0001).

Table 2 Demographics

Variables	BATHE group (n=70) number (%)	Non-BATHE group (n=68) number (%)	P value
Patient related			
Age in years			
18–30	10 (14.3)	10 (14.7)	0.27
31–60	39 (55.7)	46 (67.6)	
>60	21 (30.0)	12 (17.7)	
Gender			
Male	36 (51.4)	26 (38.2)	0.19
Female	34 (48.6)	42 (61.8)	
Education			
No education	9 (12.9)	7 (10.3)	
Primary	11 (15.6)	24 (35.3)	0.009
Up to 12th	27 (38.6)	24 (35.3)	
College	23 (32.9)	13 (19.1)	
Previous visits to the centre			
None	4 (5.7)	15 (22.1)	0.001
1–5	16 (22.9)	24 (35.3)	
>5	50 (71.4)	29 (42.6)	
Physician related			
Gender			
Male	60 (85.7)	21 (30.9)	0.001
Female	10 (14.3)	47 (69.1)	
Experience of the physician in years			
≤21	54 (77.1)	55 (80.9)	0.59
>21	16 (22.9)	13 (19.1)	
Previous visits to the particular physician			
None	12 (17.1)	50 (73.5)	0.004
1–3	12 (17.1)	10 (14.7)	
>3	46 (65.8)	8 (11.8)	
Reasons for visit			
Routine care	45 (64.3)	33 (48.5)	0.062
Acute care	25 (35.7)	35 (51.5)	

*P value was calculated by χ^2 test.
BATHE, background, affect, trouble, handling and empathy.

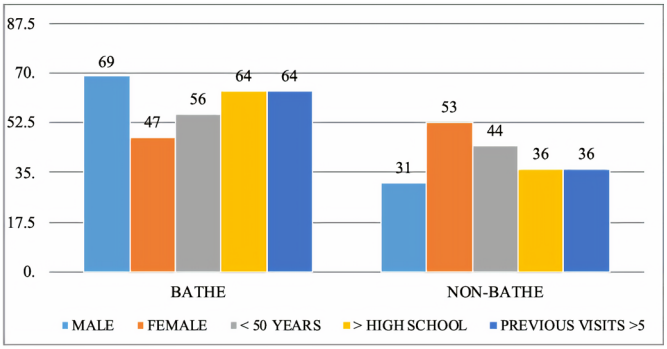

Figure 1 Patient demographics influencing patient satisfaction scores. BATHE, background, affect, trouble, handling and empathy.

On applying linear regression, satisfaction scores were significantly higher among those who had visited the centre in the past and those who consulted physicians with more years of experience. There was association in past visits to the centre (beta=0.28, p<0.002), years of experience of the physician (beta=0.22, p<0.03) and visit for routine care (beta=2.32, p<0.006) with patient satisfaction scores. There was no association with BATHE consultation technique (beta=0.52, p<0.62) and patient satisfaction score (table 4).

Table 4 Factors influencing the total satisfaction score

Variable	β coefficient	95% CI of B
Patient related		
Gender of the patient*	0.11	−1.44 to 1.66
Age	0.05	−0.005 to 0.11
Education	0.40	−0.09 to 0.89
Past visits to the centre	0.28†	0.11 to 0.45
Physician related		
Gender of the physician*	0.59	−1.45 to 2.64
Years of experience	0.22‡	0.02 to 0.42
Past visits to the particular physician	−0.08	−0.36 to 0.21
Routine care visit*	2.32§	0.67 to 3.98
BATHE consultation*	0.52	−1.52 to 2.55

*Dichotomised variables.
†p<0.002.
‡p<0.03.
§p<0.006.
BATHE, background, affect, trouble, handling and empathy.

DISCUSSION

Family physicians regularly encounter mental health issues like generic psychosocial distress, mood disorders and anxiety disorders that impair daily functions of patients. Moreover, they see patients with ongoing chronic problems like hypertension, diabetes mellitus and chronic obstructive pulmonary disease who experience coping issues related to their disease and their life stages. These could represent as much as 30% of consultations on a routine day.[18 19] The World Organization of Family Doctors working party for mental health encouraged family doctors to incorporate non-drug intervention (NDI) in everyday practice to manage mental health issues and thus provide holistic care.[20] BATHE technique is an example of NDI. The above research is the first study in the available literature on the use of BATHE in a family practice centre in India. Our trial demonstrated that BATHE is applicable in such a setting.

Patient satisfaction, to put it simply, is the extent to which patients are happy with their experience of a particular healthcare unit. There are a variety of methods to measure this. Our study used CSQ to measure patient satisfaction in two groups of patients, one of whom had BATHE technique of interview. There was no significant difference in the overall score of patient satisfaction in the two groups. The number of male physicians in the

Table 3 Comparison of domain specific and total mean rank scores of patient satisfaction for the BATHE and non-BATHE groups

	BATHE group		Non-BATHE group			
Domain	Mean rank score	Median (range)	Mean rank score	Median (range)	Mann-Whitney score	Z (p value)
General satisfaction (q 1,7,17)	67.5	10 (7–13)	71.5	10 (5–15)	2242.5	−0.64 (0.52)
Professional care (q 2,3,6,9,10,12,13)	79.1	34 (28–35)	59.7	33.5 (27–35)	1711.5	−2.95 (**0.003**)
Depth of relationship (q 4,8,14,15,18)	76.8	18 (14–25)	62.0	18 (3–25)	1869.0	−2.22 (**0.03**)
Perceived time spent (q 5,11,16)	69.3	6 (3–10)	69.8	6 (3–15)	2363.0	−0.08 (0.94)
Total satisfaction (all questions)	76.7	68 (59–83)	62.1	67 (52–86)	1875.5	−2.16 (**0.03**)

Bold values indicate statistical significance.
BATHE, background, affect, trouble, handling and empathy.

BATHE group was more than in the non-BATHE group. This was to be expected as the regular family physician available daily for the entire day was of the male gender. The patients had an established relationship with this physician.

We attempted cut-off scores ranging from 50% to 75% for the overall patient satisfaction score. When the cut-off of 75% was considered, the BATHE group had a significantly higher satisfaction score. There was a significantly higher score in the questions grouped under the professional care scale in the BATHE group. The professional care domain of the Patient Satisfaction Questionnaire includes elements vital in the patient-centred interview. Besides attentiveness and thorough physical examination, it includes explicit explanation, acknowledging the person of the patient, enabling patients to understand their illness and follow physicians' instructions. A higher score in this domain among participants in the BATHE group in our study reflects that patients felt satisfied when their context was explored and acknowledged. Patient satisfaction is well reported to improve self-management and compliance.[4]

A recent randomised controlled trial using BATHE to improve the care of frequent attenders of patients in general practices in the UK has documented BATHE to facilitate patient activation and lower consultation rates.[21] Patients in both the groups in our trial felt that the time spent with their physicians was inadequate for physicians to plan for all their issues during the consultation. Our study outcomes did not include the length of consultation between the two groups. However, the recent UK trial reported no increase in consultation length as the BATHE technique gives a framework to explore patients' wider contexts.[21]

Some of the significant predictors of patient satisfaction in our study group were consultation with an experienced physician, if it was a routine visit and if the patient had visited the clinic before. BATHE intervention was not a significant predictor of patient satisfaction. This is in contrast to the randomised controlled trial using BATHE to improve diabetic empowerment score in Turkey, where BATHE intervention was a positive predictor for improvement in diabetes empowerment scale (DES).[15]

The results of our study need to be moderated with the limitations. Due to scheduling issues in the duty roster, two family physicians were not always available for randomisation. This resulted in significant differences in the baseline criteria of both groups. As both the family physicians were trained in BATHE, there was no guarantee that similar questions would not be used in non-BATHE consultation. This may have affected the patient satisfaction score.

Moreover, the patient satisfaction score was collected by an independent observer and not done directly by the patient. A point to be noted though is that the independent observer did not know about the BATHE consultation technique or its outcomes. Though we had not documented the time of each consultation, the physicians expressed that BATHE helped in quickly assessing the psychosocial factors in the visit and helped in relating to the patient as a person.

CONCLUSION

Our study illustrates that a simple intervention tool, like BATHE, can be used in primary and secondary care settings in India. The study results support similar findings in the literature that patients perceived patient centeredness and had better total satisfaction scores when BATHE was used during consultation. BATHE as a screening and therapeutic tool can be taught for family medicine residents and MBBS graduates practising in similar set-ups in India to explore the psychosocial issues in a structured format and empower patients to manage their problems better.

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