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The Effects of BATHE Interview Technique on Obese Patient

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Abstract
Aim: *The purpose of this study is to investigate the effect of BATHE interview technique on clinical data and patient satisfaction of obese patients.*
Methods: *Patients applied Erzincan Tercan State Hospital Family Physician Obesity outpatient clinic between November 1, 2014 and October 31, 2015 were included to study. Patients who met study inclusion criteria, were selected among the files of obese patients. Between November 1, 2014 and April 31, 2015, 33 patients who were admitted to outpatient clinic due to obesity complied with the participation criteria in 52 patients were accepted as the first group. The 29 second group patients, who met study inclusion criteria in 46 patients, were evaluated by BATHE interview technique between 1 May 2015 and 31 October 2015. Patients who were followed up in the first 6 months were also followed up in the obesity outpatient clinic after May 2015 and continued to follow by using BATHE interview technique.*
Results: *Patients evaluated by BATHE were found to be more satisfied with physician visits (p = 0,015) and have more regular outpatient clinic visits (p = 0.004).*
Conclusion: *The use of BATHE interview technique in the evaluation of obese patients is a positive effect on patients' satisfaction.Conclusion: The use of BATHE interview technique in the evaluation of obese patients is a positive effect on patients' satisfaction.Keywords: obesity, outpatient clinic, interview, family physician, patient satisfaction*

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I. Introduction

Obesity is one of the most common chronic disease in the world and in Turkey, and has an important place in primary care because of its increasing frequency [1-2]. It is emphasized that chronic diseases such as obesity are increasing day by day and economically put countries under a serious burden, and therefore, various management models related to the care and management of chronic diseases should be established [3-4]. The common goal of all proposed chronic disease management models is to develop patients' self-management skills and empowerment [5-6]. Programs involving behavioral changes that are structured for comprehensive lifestyle changes are suggested in obese patients. These programs include; self-monitoring (recording the daily consumption of nutrients and physical activity), controlling and changing the stimulants that have effects on the feed, prolonging the eating period, setting targets, negotiating and supporting the behavior change, training on the diet planning, physical activity planning, social support, cognitive structuring, problem solving skills [7]. It is indicated that the behavioral change significantly reduces the weight gain again after weight loss with frequent weight follow-up (at least weekly control) [7]. In addition, it has been reported that behavioral changes are very effective to lose weight as soon as possible [8]. However, emotional problems observed in chronic diseases such as obesity prevent them from participating in their own care and make it difficult to control the disease [9-10]. It is reported that psychosocial support can not be given to obesity patients due to time insufficiency or workload [11]. It is suggested that some therapeutic interview techniques can be used in the family medicine [12], and these techniques can be used to reveal the psychosocial reasons underlying the patient's complaints and also to improve the patient-physician relationship. In fact, it is thought that short psychotherapeutic interviews should take an important place in daily practice of family physicians [13]. Therapeutic interview techniques are recommended in basic patient interviews, in limited time interviews, and in situations requiring a psychosocial approach [14]. The BATHE technique, one of the short counselling techniques, is a technique developed for the use of family physicians in the primary care and lasting about 5-7 minutes. It has been reported that BATHE, which is formed from the first letter of the words Background, Affect, Troubling, Handling, Emphaty (Empathy), strengthens patient self-efficacy by strengthening patient physician relationship [15]. Patients, whose doctors applied BATHE technique in primary care, were reported

to be more satisfied with their doctor visits, more informed about their illnesses, informed well about their treatment, more persuaded in terms of long-term care, and higher rates of recommendation their doctor's to another patients. BATHE technique also increases patient-doctor communication and patient satisfaction [12].

II. Methods

The purpose of this study is to investigate the effect of the BATHE short interview technique on clinical outcomes and patient satisfaction of obese patients

1.1. Groups Formation

Patients applied Erzincan Tercan State Hospital Family Pyysician Obesity outpatient clinic due to their obesity between November 1, 2014 and October 31, 2015 were included to study. Patients who met study inclusion criteria, were selected Dr. Selçuk Akturan among the files of patients who applied for obesity. Between November 1, 2014 and April 31, 2015, 33 patients who were admitted to the Family Physician Obesity outpatient clinic due to obesity complied with the participation criteria in 52 patients were accepted as the first group (Non-BATHE group). The 29 second group patients (BATHE group), who met study inclusion criteria in 46 patients, were evaluated by BATHE short interview technique between 1 May 2015 and 31 October 2015. BATHE short interview technique was used in the physician interviews of the patients who were followed in the Obesity outpatient clinic opened after May 1, 2015. Patients who were followed up in the first 6 months were also followed up in the obesity outpatient clinic after May 2015 and continued to follow by using BATHE short interview technique. However, only the clinical results of the first 6 months (before May 1, 2015) of control group patients followed in the Family Physician Obesity were assessed.

The inclusion criteria for the patients of the study are listed below:

- Patient hasn't been diagnosed as Type 2 diabetes or hypertension,
- Being between 18 and 80 years old,
- Being over 30 BMI and above,
- Visited their physicians at least 3 times during the last 6 months for their obesity follow up,
- Not getting any depression treatment during the study period.
- Understanding and approving the informed consent form in the first application for obesity

The exclusion criteria are listed below;

- If there is an acute or chronic condition that interferes with communication,
- Development of any condition that interfere with doctor counselling during the visits, affect the clinical data (pregnancy, etc.)
- Request to leave at any stage of the follow-up voluntarily,
- If the number of visits to the Family Physician Obesity outpatient clinic for obesity is less than 3 in 6 months,
- If patient has been used any herbal or pharmacotherapeutic drug to lose weight,
- If patient does not want their studies to be used for scientific purposes, and does not approve the proposal form.

Family Physician Obesity outpatient clinic nurse was trained for the measurement of blood pressure based on the ESH / ESC 2013 Hypertension Guideline recommendations by Dr. Selçuk Akturan, and it has been considered successful to perform all steps of blood pressure measurement [16]. Measurements of the waist circumference are also explained to the nurse practically (between the lower rib bone and the cristalliac, the midaxillary junction is marked, and the circumference passing through the midpoint is measured by the tape) [17]. The stadiometer in our hospital was used for height measurement. The obesity outpatient clinic nurse were trained for the key points of height measurement by Dr. Selçuk Akturan [18]. These hands-on trainings mentioned above were given in October 20, 2014. Dr. Selçuk Akturan prepared guidelines for all applications and shared with Family Physician Obesity outpatient clinic nurse. Obesity outpatient clinic nurse was considered successful in applying all steps of these guidelines to another nurse working at the Tercan State Hospital.

Also, a well structured 2-hour training, that was including presentation for BATHE, a sample of doctor-patient interview by using BATHE short interview technique and hands-on training, organized by Selçuk Akturan to the Family Physician Obesity outpatient clinic nurse on April 27, 2015. Recall materials (articles, video, PPT presentation prepared by Dr. Selçuk Akturan regarding BATHE, etc.) were copied to a CD and given to the clinic nurse. Beside this, the BATHE checklist was given to the nurse for remembering during the interview.

Physician used BATHE short interview technique for 6 months between May 2015 and November 2015. In addition, BMI, waist circumference, blood pressure values of both arms were measured by the nurse. The nurse is asked to note whether physician applies the BATHE technique at each visit, and if not, the physician should be informed after consultation. It was shared with the nurse to ensure that all steps of the BATHE short interview technique have been performed will be considered fully implemented. Patients to whom all steps of the BATHE short interview technique can not be applied were not included in the study.

1.2. Evaluation of Patients

By the first meeting, an informed consent form has been prepared and after verbally informed all patients were signed the informed consent. Additionally, it was shared with all patients that patient folders were created for follow-up visits. Also it was said that the information within the files should be used for researches without sharing the identity information.In the first patient visit, the form including patients' age, marital status, educational status, average monthly income, socio-cultural characteristics and information for obesity was applied all obesity patiens face-to-face. In addition, the patients' height and weight, waist circumference, hip circumference, Body Mass Index (BMI) were measured. Anthropometric measurements of all patients (weight, height, waist circumference) and blood pressure (on both arms) were measured.

Patients were asked to measure blood pressure to the obesity outpatient clinic nurse at Tercan State Hospital twice a day for 5 days within 2 weeks. Patients were allocated a room at Tercan State Hospital for blood pressure measurement and were allowed to stay in their allocated room for at least 10 minutes before measuring blood pressure. All patients were also informed that they would be invited by telephone a few days before the outpatient clinic appointments for follow-up and control.

The laboratory values recommended in the evaluation of all obese patients [19];
• HbA1c
• Hemogram
• TSH, fT4
• AST, ALT, uric acid, BUN / Creatinin, Na / K,
• Fasting blood glucose
• Total Cholesterol, HDL, LDL, Triglyceride

were analyzed in the first visit. At the end of the last visit in sixth month fasting blood glucose and HbA1c were analyzed to all patients (if clinically required, other tests were also analyzed).

1.3. Assessment of Patient Satisfaction

A patient satisfaction scale created by the researchers consists of 10 questions about make someone feel interested, empathy, non-verbal communication, explanation, and good communication with the patient was applied to all patients. The answer to each question is made up of yes and no, and a scale was created in which a total score of 10 can be obtained by evaluating 1 point for yes and 0 point for no. The higher score in patient satisfaction scale shows that patient satisfaction increases. The scale was applied on phone by another nurse working at the hospital through the contact information of the patients' files. The group of patients, non-applied the BATHE interview technique, were applied on the phone before the evaluation of the obese patients by BATHE interview technique.

1.4. Statistical Analysis

For the statistical analysis of the study, SPSS 22 program was used. Chi-square test was used for categorical variables and student-t test was used for comparing continuous variables. A paired student-t test was used to measure changes in BMI and HbA1c values. Statistically, $p < 0.05$ was considered significant

III. Results

In this study, 29 patients from BATHE short interview technique applied group and 33 patients to whom BATHE short interview technique were not applied group were included. (Fig. 1).

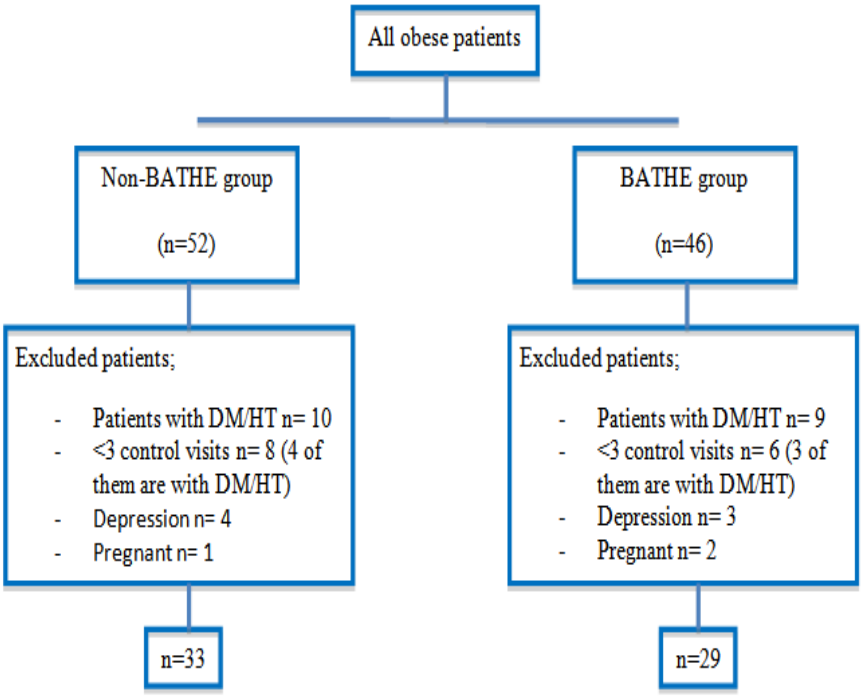

Figure 1. The number of excluded patients of both group

1.5. Sociodemographic Characteristics of Patients

Sociodemographic characteristics of both groups, anthropometric measurements and comparisons with some clinical data, experience and beliefs related to obesity are shown in Table 1, Table 2 and Table 3.

Table 1.The comparison of both groups' antropometric measurements and some clinical data

	Group	N	Mean	STD	p value
First visit weight (kg)	Non-BATHE BATHE	33 29	94.70 96.69	12.817 11.650	0.52
Age	Non-BATHE BATHE	33 29	41.09 39.59	6.376 7.169	0.38
Children number	Non-BATHE BATHE	33 28	2.85 2.57	1.523 1.103	0.41
First visit waist measurement (cm)	Non- BATHE BATHE	33 29	118.27 120.79	9.728 9.556	0.30
First blood glukoz level	Non- BATHE BATHE	33 29	91.42 90.69	12.237 9.032	0.78
First HbA1c (mg/dl)	Non- BATHE BATHE	33 29	5.4879 5.6759	.44704 .40940	0.089
First BMI (kg/m^2)	Non- BATHE BATHE	33 29	39.88 40.82	5.202 5.360	0.48
First visit Systolic BP mean	Non- BATHE BATHE	33 29	119.94 120.93	10.374 8.767	0.68
First visit Diastolic BP mean	Non- BATHE BATHE	33 29	76.15 78.69	8.117 7.874	0.21

- The continuous variables were analyzed using independent sample t-test.
- The categorical variables were analyzed using Chi square test.

Table 2. The comparison of both groups patients' socio-demographic features	p value
Gender	0.34
Marital status	0.22
Educational status	0.73
Working status	0.47
Monthly income	0.41
Smoking	0.30
Alcohol	0.92
Comorbid diseases	0.73
Number of daily medication	0.06
Number of first degree obese relative	0.23
- The continuous variables were analyzed using independent sample t-test. - The categorical variables were analyzed using Chi square test.	

Table 3. The comparison of both groups patients' features about obesity	p value
Why did she/he decide to loose weight?	0.51
How much does she/he wants to loose weight?	0.94
Is obesity a disease?	0.54
Did you ever try to loose weight?	0.10
Have you ever been on a diet?	0.42
If your answer is 'yes' where do you supply the list?	0.30
Do you know what does the calorie mean?	0.73
Do you know food groups?	0.30
Do you do regular exercises?	0.34
- The continuous variables were analyzed using independent sample t-test. - The categorical variables were analyzed using Chi square test.	

The comparison of the last weight, waist measurement, BMI, blood glucose level, HbA1c, blood bressure, number of physician visit and patient satisfaction scale score of both groups are listed in Table 4.

Table 4.The comparison of groups' last antromopetric measurements, BMI, HbA1C, BP, number of visit, and patient satisfaction score.					
	Group	N	mean	STD	p value
Last visit waist measurement (cm)	Non-BATHE BATHE	33 29	113.97 116.03	9.6849.045	0.38
Last visit kg	Non-BATHE BATHE	33 29	88.39 88.90	11.908 11.437	0.86
Last BMI (kg/m^2)	Non-BATHE BATHE	33 29	37.26 37.39	4.9804.978	0.92
Last blood glukoz level	Non-BATHE BATHE	33 29	88.0087. 41	8.1435.710	0.74
Last HbA1c (mg/dl)	Non-BATHE BATHE	33 29	5.4303 5.5069	.30566 .28276	0.31
Last visit Systolic BP mean	Non-BATHE BATHE	33 29	117.42 116.72	10.0138.336	0.76
Last visit Diastolic BP mean	Non-BATHE BATHE	33 29	73.97 75.59	7.312 6.722	0.36
Outpatient clinic visit number last 6 months	Non-BATHE BATHE	33 29	4.73 5.31	.761 .761	*0.004*
Patient satisfaction scale score for the last 6 months clinic visit?	Non-BATHE BATHE	33 29	8.85 9.38	.939 .728	*0.015*
- The continuous variables were analyzed using independent sample t-test. - The categorical variables were analyzed using Chi square test.					

IV. Discussion

This is the first study in the literature that investigated the effect of BATHE technique on patient satisfaction in obesity. The results of our study suggest that the use of the BATHE short interview technique has a positive effect on the satisfaction of obese patients.In the literature, there is limited research on the effect of BATHE technique on patient satisfaction, HbA1c and BMI [12, 21].In the study of Akturan et al. family physicians applied BATHE short interview technique on Type 2 diabetic patients and the outcomes have shown that BATHE short interview technique strengthened patients and had positive effect on regular doctor visits [20]. In our study the socio-demographic characteristics, frequency of referral to the doctor, time to apply to the last doctor, and HbA1c and BMI values are similar between BATHE applied and non- applied group, so it is considered that BATHE short interviewing technique are effective on the outcomes of study.

Leiblum et al. who investigated the relationship between family physicians' use of BATHE interview technique and patient satisfaction, reported that the satisfaction of the BATHE applied patients were more than the other non-applied group. It was also found that the patients of BATHE applied group perceived their doctors more sympathetic. Unlike our study, all the patients who applied to the family physicinas besides obesity patients were taken by Leiblum et al. Unlike our study, patients were evaluated whether BATHE was applied or not. At the same time, in this study, each physician evaluated both control and intervention patients and the possibility of affecting the control group patients from BATHE can not be overlooked. Akturan et al. indicated that BATHE increases satisfaction on diabetes patients ($p < 0.001$). Our study demonstrated that motivational short interview technique improves patient satisfaction in obese patients increases the importance of our study.

Kim et al. studied on the effect of BATHE technique developed for primary care on patient satisfaction, for this purpose they created 2 groups, intervention group applied BATHE and the control group (not using any interview technique). The outcomes showed that doctors empathize during the motivational interview ($p = 0.42$). In this study, total scores of 'Patient Satisfaction Scale' applied after the interview of all patients were significantly higher in the intervention group than in the control group ($p<0,05$). All physicians' patients total satisfaction score were significantly higher for BATHE applied group than non- BATHE applied group ($p<0,05$). This result indicates that the BATHE technique provides patient satisfaction independent of the practitioner and has eliminated the need to use any empathy scale in our study [21].

Tang et al. (2010) assessed the clinical laboratory results, self-care attitudes and behaviors of the 6-monthEmpowerment-Based Diabetes Self-Management Support (DSMS) for intervention, the impact on the patients' empowerment and quality of life. During the intervention period self-care behaviors, diabet-specific quality of life and diabetes reinforcement were not significantly changed. At the end of the intervention period HbA1c, weight, systolic blood pressure, BMI and LDL values were found to be positively decreased and statistically significant changes were found according to control period end values. At the end of the control period, participants were found to be choosing a healthy diet at a high rate and making their sugar checks more regular. In our study, there were no any significant change in laboratory measurement and blood pressure, because 6 months may not be enough time to change this parameters significantly.

Williams et al. indicated that the patients with high self-directed motivation have a positive impact on their clinical values [22]. We also used BATHE short motivational counsilling technique, and the results of our study looked at the changes in BMI and HbA1c, and the finding of positive changes in the intervention group patients coincided with the mentioned study.

1.6. Limitations

There are some limitations in our study. The confirmation of the use of BATHE technique on patients is left to the nurse is one of these limitations and could be evaluated by video. Another limitation is that the final BKI and HbA1c values are looked at immediately after the application of the BATHE technique. These values could be strengthened by measurement 3 months after the last visits. The assessment of both group patients by the same physician is another limitation.

Short interview techniques can improve patient-physician communication, patient satisfaction, therefore affect treatment and follow-up of chronic patients such as obesity [23-24-25] can be easily given during residency or medical education.

In conslusion, the results of our study indicated that the evaluation of obese patients using BATHE interview technique had positive effects on patient satisfaction and regularity of clinic visits even though it did not cause significant changes in clinical data. In addition, our study can be a guide for future work the use of BATHE interview technique in primary care.

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