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To study the transactional analysis in well-controlled and poorly controlled Type 2 Diabetes Mellitus: An observational, cross-sectional, pilot study

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A B S T R A C T

Aim and Objective: To evaluate the role of transactional analysis in Type 2 Diabetes Mellitus (T2DM) control using a validated transactional analysis questionnaire and assess the effect of personality type on diabetes management.

Materials and Method: This observational, cross-sectional study was conducted in a tertiary care hospital on T2DM patients (18–60 years) with a disease duration of over one year. Patients were classified as well-controlled or poorly controlled based on HbA1c levels (last three months) or recent medication changes (last month). A validated 36-item transactional analysis questionnaire identified personality types: Nurturing Parent, Critical Parent, Adult, Free Child, and Adopted Child.

Results and Discussion: Among 52 participants (24 males, 28 females, mean age 54 years), 25 were in the well-controlled and 27 in the poorly controlled group. The Nurturing Parent personality type was observed in 22 participants, 14 of whom had well-controlled diabetes. The reliability of the Nurturing Parent scale (Cronbach's alpha = 0.654) supported its consistency. Conversely, 9 participants exhibited an Adopted Child personality, with 7 belonging to the poorly controlled group.

Conclusion: Nurturing Parent personality was associated with better diabetes control, while Adopted Child personality correlated with poor control. A concise eight-item questionnaire may help predict diabetes management outcomes in future assessments.

Key words- Diabetes Mellitus, Transactional Analysis, Personality Types

INTRODUCTION

Diabetes mellitus (DM) is one of the most common non communicable diseases affecting almost 20% of the population, in which proportion of patients suffering from Diabetes is highest in India [1]. The therapeutic approach for the management of Diabetes includes lifestyle modification and pharmacotherapy. Due to the chronic nature of the disease, the psychology of the patient plays a crucial role in the proper management of it [2].

One of the methods to assess the psychological aspect of the patient is by assessing the transactional analysis which is used to assess the ego state [3]. Compliance to therapy which includes both pharmacological and non-pharmacological measures is pivotal for the proper management. If compliance is not maintained the patients of type II DM will become prone to the various microvascular and macrovascular complication of type II DM [4]. Compliance and adherence to management involves an equal patient participation and is dependent on both patient as well as physician's factors [5]. One

of the important aspects which may affect compliance is the emotional intelligence [6]. As per the 6-pronged approach for management of patients of type II DM, one of the arms is for the psychological aspect [7].

One of the methods for assessing the psychology of the patient is the Transactional analysis (TA) approach. TA is both a theory of personality and a systematic psychotherapy for personal growth and change. TA is done using a set of questions which are asked by the clinician to the patient. TA focuses on studying interactions between individuals. Apart from analysing these interactions, TA also involves identifying the ego states underlying each transaction. Dr. Eric Berne defined ego states as ways in which we think, feel, and behave which collectively shapes our personality at any given moment. TA recognizes three primary states during interactions: the child ego state, the parent ego state, and the adult state [8].

- The parent ego state: It has two subdivisions: the critical/controlling parent state and the nurturing parent state which are based on the patterns of behaviour and thinking as identified by the questionnaire. Nurturing parents exhibit sympathy and care, while critical parents tend to be judgmental and prone to false accusations.
- Adult ego state- The Adult ego state is the rational process of what we are thinking and feeling, which is based on facts without interference of unconscious contamination.
- Child ego state-people revert to behave similarly to what they did in childhood. It has two subdivisions. Free child is pleasure-seeking, curious and happy people. But Adopted child ego state is angry, fearful and self-centred people [9].

TA is primarily concerned with the following:1. Analysis of self-awareness, 2. Analysis of ego States, 3. analysis of transactions, 4. script analysis, 5. games analysis,6. analysis of life positions,7. Stroking. TA could be provided as individual, group, couple, and family therapy. TA involves an easy and complete interactive theory about personality that gives insight into encountering oneself and others [10]. This article aimed to study the transactional analysis by analysing the ego states of diabetic patients and their impact on the control of type 2 Diabetes Mellitus. The primary objective was to study the transactional analysis in the control of Type 2 Diabetes mellitus using a transactional analysis questionnaire and to assess the effect of personality type on the control of type 2 Diabetes mellitus.

METHODOLOGY

Study design

The study was an hospital-based questionnaire based, observational, cross- sectional study, conducted on 52 Type 2 Diabetes Mellitus patients.

Study setting

The study was conducted at outpatient Department of General medicine & dispensary of tertiary care teaching hospital, central India from April 2024 to June 2024.

Study Participants

Known case of Diabetic Mellitus for at least 1 year of 30 to 60 years of either gender were included in this study. Known patients or history of psychiatric disorder (Major Depressive Disorder) and other diseases which affect quality of life, Pregnant or lactating women were excluded from the study.

Study procedure

The study was carried out in accordance with Declaration of Helsinki and Good Clinical Practice. The study was carried out after approval from the institutional ethics committee.

A written informed consent was taken from the participants after which participants were screened for the eligibility criteria. Eligible participants were grouped into controlled and uncontrolled diabetes. The definition of controlled and uncontrolled diabetes is mentioned below.

Definitions

1) Controlled DM: HbA1c less than 8% or no change in anti-diabetic medication since last 3 months and not on insulin therapy
2) Uncontrolled DM: HbA1c more than equal to 8% or change in anti-diabetic medication since last 3 months and requirement of insulin therapy.

The pre-validated transactional questionnaire comprising of 36 questions were administered by the clinicians. The questions are randomly arranged to assess the five ego states namely, Nurturing parent, Critical parent, Adult, Free child and Adopted child. For each ego state a total of 6 questions were asked which were responded as 'Very Frequently,' 'Frequently,' 'Sometimes,' 'Rarely,' and 'Never.' The pre-validated questionnaire assigns points based on the response for each question and the ego state with highest total points indicates the predominant ego state of the participant.

Sample size:

A sample size of 52 participants were taken arbitrarily as pilot study with 25 participants in each group since no available literature regarding it was present.

Statistical analysis: The results were analysed using descriptive analysis with data is summarized using median and proportions for both the groups.

RESULTS

A total of 78 participants were informed about the study, out of which 7 patients didn't consent for the study. The 71 participants were screened for eligibility after written informed consent out of which 52 participants met the eligibility criteria of the study. The study flow chart is mentioned in Figure 1. Out of the total 52participants 27 participants had poorly controlled Diabetes (Group B) and 25 participants had well controlled Diabetes (Group A). The present study had 28 male participants and 24 female participants. Most of the participants were in age group of 45-55 years. (Well controlled) (poorly controlled). The demographic data were well balanced across both the groups which is mentioned in the Table 1

Figure 1- Study flow chart

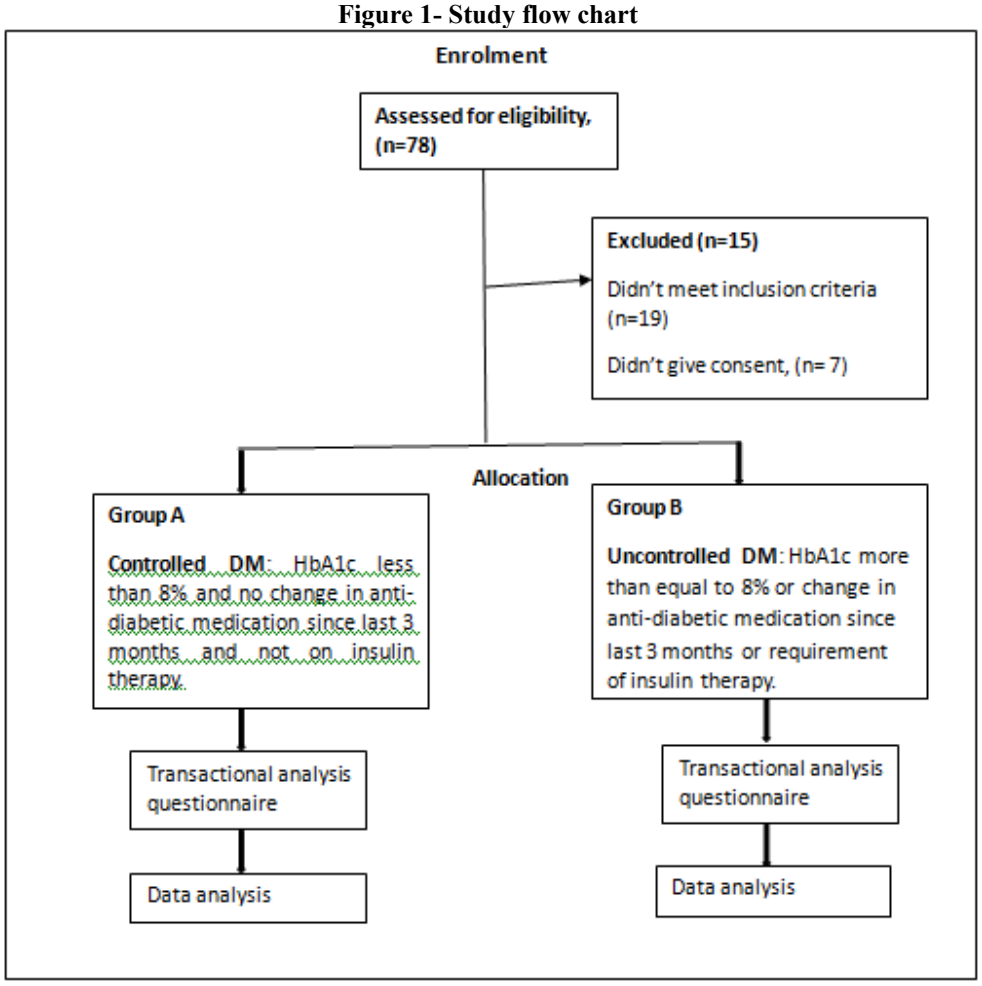

Table 1: Demographic characteristics in well-controlled and poorly controlled type 2 DM

Demographics	Group A	Group B
Mean age ± SD (*in Years*)	54.2±6.5	54.2±6.02
Male	12	16
Female	13	11
Total Participants	25	27

The figure 2 illustrates the Transactional Analysis (TA) ego state scores for the participants in each group. Patients with Well controlled Diabetes (Group A) scored significantly higher (14, 56%) for the nurturing parent ego state compared to participants having poorly controlled Diabetes (Group B) (8, 30%), indicating a stronger nurturing parent type of ego state in patients with well controlled Type 2 Diabetes Mellitus. Participants with poorly controlled type 2 Diabetes (Group B) scored significantly higher (7, 26%) for Adopted child ego state compared to participants with well controlled type 2

Diabetes mellitus (Group A) – (2, 8%). The scores for critical parent, free child and adult ego state were observed to be similar in both the groups which are mentioned in Figure 2.

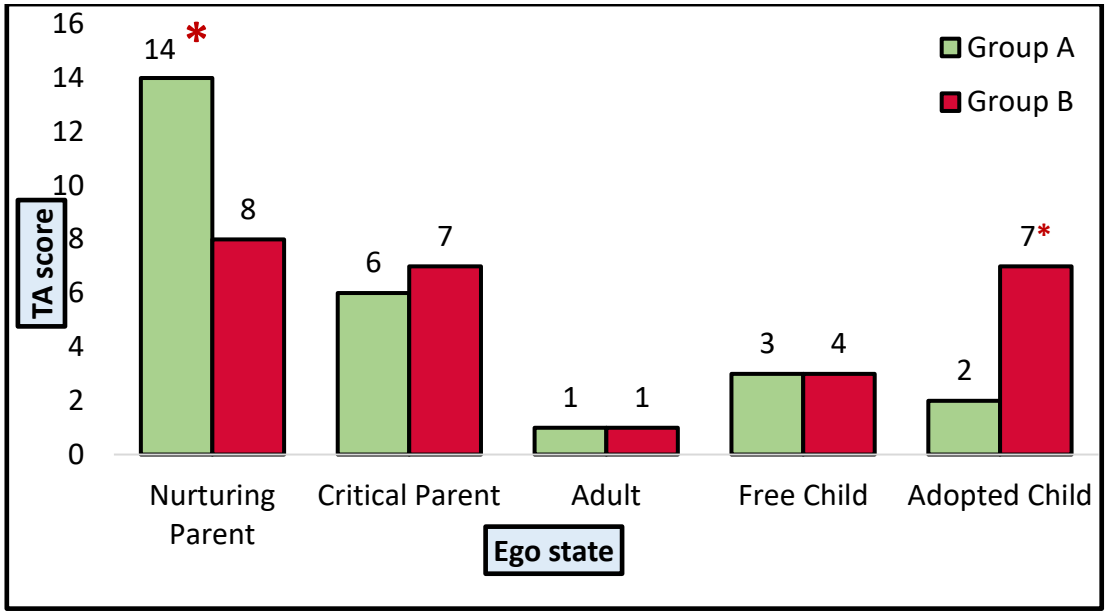

Figure 2: column chart comparing Transactional score of various ego state in well controlled and poorly controlled type 2 DM

DISCUSSION

TA enhances self-awareness, allowing individuals to better understand themselves and their interactions. By applying TA principles, individuals can develop better communication skills, build stronger relationships, and manage conflicts more effectively. TA's versatility allows it to be applied in various social environments and relationships, such as workplace interactions, teacher-student dynamics, romantic relationships, family dynamics, and interactions with difficult clients across industries[11]. So, Implications of TA Ego State Scores in Diabetes Management:

- **Nurturing Parent (NP):** Nurturing parents exhibit sympathy and care. Participants with well-controlled diabetes exhibited significantly higher NP scores compared to those with poorly controlled diabetes. This suggests that well-controlled patients may adopt a more nurturing and supportive approach towards themselves and others, translating to better self-care practices, adherence to treatment plans, and a supportive environment.
- **Adopted Child (AC):** The poorly controlled group scored significantly higher (7) in the AC ego state compared to the well-controlled group (2). This indicates a higher tendency towards compliant behaviour in the poorly controlled group. While compliance with treatment regimens is essential, individualized approaches are necessary.
- **Adult:** Both groups exhibited low scores in this ego state, suggesting minimal rational and objective thinking. This could be attributed to the structured nature of diabetes

The main objective of TA therapy is to enhance the adult state of the patient. By applying TA principles and techniques, therapists can empower patients to develop a stronger adult ego state, leading to improved emotional regulation, relationships and overall well-being. This is achieved through skilful questioning and tools to identify triggers that shift the client into Parent or Child ego states, and developing effective strategies to help them remain in their adult state during these moments.

The internal consistency of the pre-validated questionnaire in our study was assessed using Cronbach's alpha. In this study, the Nurturing Parent questions demonstrated good internal consistency with a Cronbach's alpha of 0.6542, based on 4 questions. Similarly, the Adopted Child questions also showed good internal consistency with the similar Cronbach's alpha value, using 4 questions. We propose that a concise eight-item questionnaire may predict diabetes management outcomes in future assessments. However, it would need further research on it. Psychological management may play a key role in the proper management of the Diabetes.

Limitation:

Due to the small sample size, these findings are preliminary. With a larger sample size, the results could be more generalizable.

CONCLUSION

These differences in TA ego states between the two groups could reflect varying psychological profiles and coping mechanisms, which may be relevant for personalized diabetes management strategies. Overall, understanding these ego states can inform personalized strategies for diabetes management, considering psychological profiles and coping mechanisms. It's essential to tailor interventions based on each patient's unique characteristics**.**

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Conflicts of interest

There are no conflicts of interest.

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