

Review Article

Psycho-social and clinical aspects of diabeto-criticare

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ABSTRACT

A progressive rise in the number of diabetes mellitus (DM) patients has been observed globally with India becoming a new diabetic capital. In spite of numerous advancements in the pharmacotherapeutics, diabetes is still difficult to manage and control. Besides clinical management of DM, an increasing need is felt to manage the psycho-social aspects related to DM, which have not been given adequate attention. Similar trends can be observed in the critically ill diabetic patients in intensive care units (ICU), which is treated on the lines of evidence based clinical medicine. The psycho-social management of diabetes is somewhat a newer concept for the intensivist that was being practiced occasionally, but unknowingly. The newer psycho-social guidelines to manage DM can be of immense help in ICU if such guidelines are modified to suit the needs of the intensivists and critically ill patients. The current review is aimed at analyzing the clinical, biological, social and psychological aspects of critically ill DM patients and the possible therapeutics measures and modifications in the current regimens so as to effectively treat the rising epidemic of DM.

Key words: Critical care, critically ill, diabetes mellitus, diabetic foot, psycho-social

INTRODUCTION

India has emerged as a new diabetic capital of the world with ever increasing number of diabetic patients being admitted in hospitals every day. As compared to patients in other countries, the unique features of these patients being the large diversity in language, customs, religion, traditions, superstitions, blind faith in quacks, treatment pattern of diabetes and the dietary patterns, which make the management of diabetes mellitus (DM) a very challenging clinical entity in developing nations.^[1] Though the incidence of DM is easier to calculate in the general population, such calculations are difficult to obtain from the intensive care units (ICU) from where the data is not uniformly reported. It is estimated from sporadic reports that number of such patients being

somewhere between 15% and 20% of all admissions in ICU.^[2]

NEWER DIABETIC CHALLENGES IN ICU

The challenges for intensivists start from the moment a diabetic patient lands in ICU [Table 1].^[3] The biggest challenge comes from patients who at some stage or the other have been taking assistance from complementary and alternative medicines. Active metabolites of these medicines can interfere and interact with the therapeutic regimens being practiced in ICU, which can enhance the mortality and morbidity associated with complicated cases of DM. These patients and their family members are invariably having strong faith and belief in the diabetes therapies being administered by so called spiritual leaders or quacks. Besides caring for the diabetic pathology, intensivists need to gear up to a new challenge of dealing with psycho-social aspects of diabetes (PSAD), which is increasingly creating an important space in the field of diabetology.^[4,5] This has become a necessity as the newer developments of diabetes care are coming up with increased understanding of the molecular basis and multifactorial biological basis of the disease and the limitations of the current therapeutic measures based solely on pharmacotherapy or pure biology.^[4,5]

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Table 1: Depicting the various critical and socio-behavioral aspects of DM in ICU	
Clinical approach	Parameters/therapeutic alternatives
General approach to person with DM Non-pharmacological interventions	Cares
	Water
	Relaxation therapy
	CBT
	Yoga
Pharmacological interventions Glycaemic interventions	Music therapy
	Others
	Use of anxiolytics
	Appropriate pre-anesthetic medication
	Prefer insulin which are easy to use during transition
Approach to family	From critical to non-critical
	From indoor to outdoor
	Team work
	Medical
	Paramedical

DM: Diabetes mellitus, ICU: Intensive care units, CBT: Cognitive-behavioural therapy

CRITICAL CARE OUTCOMES IN DIABETES

Outcomes of diabetes management have often been unpredictable most probably due other co-morbidities associated with it as compared to DM among the general population. The undesirable and unpredictable outcomes have been the churning stimulus for numerous evidence based studies carried throughout the globe.^[1,6,7] Though a “Rule of Halves” have been used by many studies, such rules are not appropriate for estimating the prevalence of global DM and its complications.^[7] The results reported are either sporadic or are non-uniform and as such diagnosis in only half of patients with DM and only half of the diagnosed receiving the therapeutic intervention may not stand true universally, especially in the critically sick diabetic patients.

FACTORS RESPONSIBLE FOR POOR CONTROL OF DM

The global impact of diabetes have projected a merely 6% of patients getting complete control of their diabetic symptomatology while such figures are hard to deduce form the critical care arena.^[7] However, such a meager number does not augur well for the critical care of the diabetic patients who invariably have multi-system organ involvement. Such statistics are staggering and are projecting a surmounting challenge to the human existence. Even in the era of technological advancements we are not able to completely control the complications of DM. Numerous factors are responsible for this inadequacy, which has troubled every physician at some stage of his clinical life. The lack of awareness regarding biological and clinical aspects of DM, inadequate treatment, poor

compliance among patients, mushrooming of “social physicians” (quacks), fear of injections of insulin, poor adherence to insulin injection guidelines, economic and psycho-socio-cultural factors are few, which can be termed common factors especially in developing nations. These facts and deep social impact have somehow halted the progress in the therapeutic advancements of DM management resulting in adoption of pluralistic approaches in developing nations, which have a clear bearing on the management of DM in critically ill patients as well.

EVIDENCE BASED OR LOGIC BASED THERAPY?

Cues can be taken from other specialties whereby evidence based medicine is combined with logical empiricism to treat the disease.^[8-11] Evidence based treatment of DM has brought a large social change in the diabetes management, which was being practiced empirically for a long time.^[9,10] Time has now come to combine the logical empiricism and evidence based scientific management of DM management strategies in the wake of rapidly growing population of diabetics throughout the world. Similar societal trend needs to be taken into the boundary of four walls of critical care so as to have a positive impact in the treatment of diabetes. The role of intensivists has to grow in the field of public health as well with the increased number of diabetic patients being admitted in critical care units so as to form a bridge between bio and PSAD.

Such patients when admitted for critical illness are difficult to manage as the majority of them are not willing to adopt the truth that they are really suffering from uncontrolled DM and the complications which have arisen are purely due to some other causes and not related to DM. it is hard for an intensivist to break the jinx and faith associated with these traditional biological, manual, spiritual and holy therapies. The clinical impact sometimes is so devastating that the mortality increases because of untimely and delayed assistance sought for acute diabetic complications. The admission criteria for such patients is largely influenced by the social and family pressures and rather than the clinically based symptomatology. So many false perceptions and beliefs associated with the higher mortality and certain death in ICU inhibit many persons form bringing such patients to ICU. Rather they are more prepared mentally to do the ‘sewa’ (care) at home, thus putting the much salvageable life of the patient at risk of death as they believe that DM is incurable and it is the traditional signal for the eternity.

BIOLOGICAL AND PSYCHO-SOCIAL CRITICAL CHALLENGES IN DM

The fact that patients come after having experimented with all sorts of complementary and alternative medicines, hardly any therapeutic strategy can be thought of eliminating all the harmful effects associated with such spiritual and traditional medicines.^[12,13] These therapies definitely interfere with many therapeutic interventions designed to salvage the critically ill patients through possible drug interactions and alterations in pathophysiology.^[13] Evidence based critical care and modern diabetic therapies still have not been able to generate the faith in people who believe in holistic approaches. The strength of socio-cultural behavior has casted a deep impact on the treatment of DM which has somehow stalled the progress of diabeto-criticare. These limitations in diabeto-therapy have necessitated to form a modified therapeutic intervention so as to treat diabetes both clinically and socially even in the critical care set-ups. A new model can be developed on the basis of a landmark study, the Diabetes attitudes, wishes and needs study, which takes socio-cultural aspects into consideration which can ease the burden of diabeto-therapy even in the critically ill patients.^[5] Such patients can be given psycho-social care therapy once they have passed safely through the critical phase of their illnesses.

Despite numerous advancements in diabetes care in critically ill patients, the number of critically ill diabetic patients has never come down.^[14] It is now felt that besides caring for the clinical pathology, other aspects of diabetes care have to be given special consideration especially psycho-social care and training to self-management of diabetes as there is no single universal best practice to manage DM. ICU seems to be an ideal ground from where such education can be imparted to the treated patient as well to the relatives and friends during the stay of the patient in ICU. The mental frame of patient who has come out of clutches of mortality and his accomplices is most suitable to imbibe whatever education and training is imparted to them at this critical period. ICU physicians and support staff are held in high esteem and are considered next to God during treatment of critical sickness. As such, a greater need is felt among the medical fraternity to involve more and more of physicians in treating all aspects of DM including psycho-social aspects so as to manage this ever increasing epidemic of modern times. Diabeto-criticare is a newer concept which can be developed on the patterns of diabeto-anaesthesia by involving and training more and more of intensivists and support staff of ICU in delivering psycho-social care to diabetic patients. It involves a huge hard work in the

initial phases and requires identification of team leaders in the critical care units who can lead the way.

NEED FOR PSYCHO-SOCIAL GUIDELINES IN MANAGEMENT OF DM IN ICU

The management of psycho-social aspects of DM can be further strengthened by development of psycho-social guidelines in the critical care arena. The structure and format of such guidelines have to be adapted from guidelines developed for non-critically ill patients with the help of intensivists.

Such guidelines can be of immense help in managing critically ill diabetic patients as it is a known fact now that glycaemic control is influenced by various psychological, psychiatric and social factors.^[4,15] These guidelines have been developed by professional bodies and aims to control diabetes across nations and overcoming cross-cultural, age, gender and community specific challenges. The adoption of these guidelines will definitely encourage the qualitative and mixed methods of diabetes management and research in critical care arena.^[4,16,17] The biggest limitation of such guidelines has been the lack of popularity and universal acceptance throughout the globe as it is not an integral part of any specialty. The intensivists have to be given importance in developing this science as the need to bring different specialists on a common platform of psycho-social diabetes management is increasingly felt. Mutual learning, efficient team work, sharing of knowledge, novel research methods, adoption of better ideas, sharing of best practices and viewpoints and complimenting the research activities in the respective fields will definitely help in bringing up this unique science.^[4,18] The scope of such therapeutic strategies can be further increased with the involvement of the society and religious leaders which is not a simple task however.

LIMITED SUPPORT FROM LITERARY EVIDENCE

Numerous studies have been carried out which have tried to manage the psycho-social aspects of DM but these pertain to the outdoor management. Until date we have not come across any study which has exclusively described these psycho-social aspects in indoor patients especially in critically ill patients. In one of our study, we have evaluated socio-behavioral aspects of intensive care but DM was not given any exclusive significance in that study. Critically ill patients are treated primarily for the pathology which necessitated their admission into ICU and secondary aspects of diseases are not given much

preference. Therefore it is mandatory that such studies should be undertaken in indoor patients which can be extremely helpful in the application of psycho-social guidelines of DM in totality. PSAD can be managed in these patients by taking a cue from various studies which tried to manage the concerned issue on out-patient basis.

COUNSELING IN ICU

In our own ICU and routine practice of intensive care, we normally emphasize the role of Almighty in improving and saving the life of the patient. Rather, pictures of various religious icons are kept in the special room where we normally counsel the relatives and family members of the patients. The impact of religion in management of diabetes is well-established and such psychological attributes can be taken help of in managing various psycho-social aspects of DM in ICU settings. The mix of evidence based management of DM and taking assistance of traditional holy faith can prove to be very strong in delivering effective diabeto-criticare services. The ambience and interior of the room has been made to look very soothing and sitting arrangement has been made for the family members of the patients where they can sit comfortably and can enquire about the various clinical aspects of their patients during their turn. This room has served as a special ground for various communications, counseling sessions, surveys and questionnaires and can also serve as a good counseling ground for the psycho-social care of the DM besides the clinical care. Breaking bad news or conveying of the grave prognosis becomes fairly easy in these circumstances. Moreover, much needed medical advice and care after discharge from the ICU is also being practiced from this room. Similarly, such locations can serve as the best place for management of the diabeto-criticare including the delivery of psycho-social care to the family members. These socio-clinical practices can be very effective as almost every fifth patient admitted in ICU is diabetic and diabeto-criticare can greatly contribute towards society by an active involvement of the intensivists and the support staff of ICU. During visits to the ICU by various village leaders or opinion makers to see their critically ill diabetic patients, their help can be sought to spread the awareness of timely diagnosis and treatment of diabetes among social masses.

This place can also serve as an ideal ground to spread awareness about various dietary myths and realities associated with DM. Moreover, special diet charts can be distributed from here which can serve to manage diabetes at home. A good team work with the nutritionist will enhance the effectiveness of PSAD management. As

such, intensivists can effectively acquire this new role of 'change agents' and can create a significant contribution in the clinical and psycho-social management of DM.^[19]

BEHAVIORAL THERAPY

Psycho-social issues of DM in critical care can be sorted out with scientific and socially proven discussions. Other methods of integrating the biopsychosocial approach in modern anaesthesiology include the use of relaxation therapy, cognitive behavioral therapy and yoga in the preoperative and postoperative phase. Music therapy, empathic listening, and conversation therapy are biopsychosocial interventions which find use in the perioperative period. Besides the disease pathologies, stress is also the major precursor of enhanced secretion of various hormones, inflammatory bio-markers and hyperglycaemia in critically ill patients.^[20,22] Apart from the role of symptomatic and empirical therapies, the role of above mentioned behavioral therapies can be significantly additive in relieving the stress in indoor diabetic patients.

DIABETIC FOOT LANDING IN ICU

Management of diabetic foot is a great challenge both to the surgeons and the anaesthesiologists. However, this challenge grows manifold for the intensivist if such patients deteriorate and get admitted in ICU due to complications of DM and diabetic foot. During the last 3 years in our hospital, 163 diabetic patients were operated for diabetic foot, needing either multiple debridement or amputation. Out of these, 17 patients had to be admitted in ICU due to various direct and indirect complications resulting from treatment of diabetic foot. Among these 17 patients, 4 patients died and this higher mortality can be attributed to the presence of co-morbid diseases as well as advanced complicated state of the diabetic foot. The psychological issues associated with amputation of the diabetic foot have hardly been explored or mentioned in the literature. Even the family members were unable to come to term with the ICU admission of their patient because of diabetic foot ailment. However, a good psychologic counseling did help in alleviating the anxiety of the family members and helped us in forming a routine practice to deal with such situations. However, a need is felt to educate the people in their own language about the various management strategies of diabetic foot so as to overcome the psycho-social challenges associated with this disease. This can be done by identifying good team leaders from the hospital staff only who can be trained to educate the masses about various methods to care for diabetic foot so as to minimize amputation possibilities

as well decreasing the morbidity and mortality associated with this clinical entity.

IDENTIFICATION OF TEAM LEADER

It is highly desirous to select a good team to deal with socio-behavioral aspects of DM in ICU. Identification of a champion among the present lot can significantly help in tiding over the minor issues plaguing the therapeutic strategies. The champion will identify the most efficient trained staff and technicians to work in unison with clinician on duty so as make the application of psycho-social guidelines in DM patients in a smooth and demonstrative manner.

CONCLUSION

As the newer psycho-social aspects of DM care are being developed and practiced, the intensivists should also gear up to meet these new challenges. The ever increasing population of diabetic patients necessitates an enhanced team work and co-ordination among different specialties. It is the awareness, training, practice sharing and team work which can greatly help in managing the clinical, biological and psycho-social aspects of DM.

REFERENCES

- Chinenye S, Ogbera AO. Socio-cultural aspects of diabetes mellitus in Nigeria. *J Soc Health Diabetes* 2013;1:15-21.
- Bajwa SJ. Intensive care management of critically sick diabetic patients. *Indian J Endocrinol Metab* 2011;15:349-50.
- Bajwa SJ, Jindal R. Endocrine emergencies in critically ill patients: Challenges in diagnosis and management. *Indian J Endocrinol Metab* 2012;16:722-7.
- Das AK, Kalra S. Diabetes: Exploring social and psychological domain. *J Soc Health Diabetes* 2013;1:1-2.
- Peyrot M, Rubin RR, Lauritzen T, Snoek FJ, Matthews DR, Skovlund SE. Psychosocial problems and barriers to improved diabetes management: Results of the Cross-National Diabetes Attitudes, Wishes and Needs (DAWN) Study. *Diabet Med* 2005;22:1379-85.
- Chinenye S, Young EE. State of diabetes care in Nigeria: A review. *Niger Health J* 2011;11:101-9.
- Hart JT. Rule of halves: Implications of increasing diagnosis and reducing dropout for future workload and prescribing costs in primary care. *Br J Gen Pract* 1992;42:116-9.
- Bajwa SS, Kalra S. Logical empiricism in anesthesia: A step forward in modern day clinical practice. *J Anaesthesiol Clin Pharmacol* 2013 [In press].
- Kalra S. Logical empiricism and diabetes management. *Int J Clin Cases Invest* 2012;4:1-2.
- Kalra S, Megallaa MH, Jawad F. Patient-centered care in diabetology: From eminence-based, to evidence-based, to end user-based medicine. *Indian J Endocrinol Metab* 2012;16:871-2.
- Bajwa SJ, Kalra S. Diabeto-anaesthesia: A subspecialty needing endocrine introspection. *Indian J Anaesth* 2012;56:513-7.
- Awah P. Diabetes and traditional medicine in Africa. *Diabetes Voice* 2006;51:25-6.
- Bajwa SS, Panda A. Alternative medicine and anesthesia: Implications and considerations in daily practice. *AYU* 2012;33:475-80.
- Bajwa SS, Kalra S. Glycaemic control in ICU. In: Bajaj S, *et al.*, editor. *Endocrine Society of India Manual of Clinical Endocrinology*. Vol. 1. 2012. p. 115-23.
- Kalra S, Sridhar GR, Balhara YP, Sahay RK. National recommendations: Psychosocial management of diabetes in India. In: Murugathan A, editor. *Medicine Update*. Vol. 23. API; 2013. p. 209-14.
- Glesne C. *Becoming Qualitative Researchers: An Introduction*. Boston, USA: Pearson; 2011.
- Creswell JW, Clark VL. *Designing and conducting mixed methods research*. Thousand Oaks, USA: Sage; 2011.
- Conference Report: 2nd International DAWN Summit; A call-to-action to improve psychosocial care for people with diabetes. *Pract Diabetes Int* 2004;21:201-8.
- Shetty R, Jena B, Kadithi A. Can social scientists be the change agents for diabetes prevention? diabetes-related knowledge, attitude, and practice among social scientists. *J Soc Health Diabetes* 2013;1:32-6.
- Manzanares W, Aramendi I. Stress hyperglycemia and its control with insulin in critically ill patients: Current evidence. *Med Intensiva* 2010;34:273-81.
- Lemineur T, Deby-Dupont G, Preiser JC. Biomarkers of oxidative stress in critically ill patients: What should be measured, when and how? *Curr Opin Clin Nutr Metab Care* 2006;9:704-10.
- Ranabir S, Reetu K. Stress and hormones. *Indian J Endocrinol Metab* 2011;15:18-22.

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