

Glycemic management during Jain fasts

Sandeep Julka, Alok Sachan¹, Sarita Bajaj², Rakesh Sahay³, Rajeev Chawla⁴, Navneet Agrawal⁵, Banshi Saboo⁶, A. G. Unnikrishnan⁷, Manash P. Baruah⁸, Girish Parmar⁹, Sanjay Kalra¹⁰

Department of Endocrinology, Radiance - The Hormone Health Clinic, CHL Hospitals, Indore, Madhya Pradesh, ¹Department of Endocrinology and Metabolism, Sri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh, ⁵Department of Medicine, Diabetes Obesity Thyroid Centre, Gwalior, Madhya Pradesh, ²Department of Medicine, MLN Medical College, Allahabad, Uttar Pradesh, ³Department of Endocrinology, Osmania Medical College, Hyderabad, Telangana, ⁴Department of Diabetology, North Delhi Diabetes Centre, New Delhi, ⁶Department of Diabetology, Dia Care Diabetes Care Centre, Ahmedabad, Gujarat, ⁷CEO, Chellaram Diabetes Institute, Pune, Maharashtra, ⁸Department of Endocrinology, Excel Hospitals, Guwahati, Assam, ⁹Consultant Endocrinologist, Department of Endocrine, Kokilaben Dhirubhai Ambani Hospital, Andheri, Mumbai, Maharashtra, ¹⁰Department of Endocrinology, Bharti Hospital, Karnal, Haryana, India

ABSTRACT

This review describes the various fasts observed by adherents of the Jain religion. It attempts to classify them according to their suitability for people with diabetes and suggests appropriate regime and dose modification for those observing these fasts. The review is an endeavor to encourage rational and evidence-based management in this field of diabetology.

Key words: Diabetes, fasting, India, insulin, Jain, religion

INTRODUCTION

In India, people celebrate festivals by fasting, feasting, or both. “Upavaasa,” a Sanskrit word for fasting, is formed from “upa” which means near and “vaasa” which means to stay, i.e., to stay near God. India is a land of many religions, all of which have fasting as an integral part of life. Gandhiji used fasting as a formidable tool to protest and prevailed over the British. Therefore, the practice of effective diabetes care is incomplete without the knowledge of management of a fasting individual with diabetes.

THE JAIN FASTS

Jainism is an important religion of India. Fasting is interwoven in the Jain lifestyle. Fasting is a simple and

proven way to cleanse one’s body, including one’s bad karma. It espouses the main tenet of Jain philosophy, which is to absolve oneself of desire. Jain fasts can last from 1 day to more than a month.^[1-3] This review builds upon an earlier publication which has focused on the glycemic management of feasts, fasts, and festivals, as observed in the Hindu religion.^[1]

There are several types of fasting in Jainism:

- Complete fasting: Giving up food and water completely for a period
- Partial fasting:
 - Eating less than you need to avoid hunger
 - Limiting the number of items of food eaten
 - Giving up favorite foods.

During the pious occasion of Paryushana, Jains observe fasts of different types and of different duration. The duration of Paryushana is 8 days for Shwetambar Jains and 10 days for Digambar Jains. In this, people either keep

Corresponding Author: Dr. Sanjay Kalra,
Department of Endocrinology, Bharti Hospital,
Karnal, Haryana, India.
E-mail: bridekarnal@gmail.com

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ekasana or upavas, which differs from person to person. Even within the same families, different members may keep different types of fasts. In the Digambar sect, Shravakas do not take food and/or water (boiled) more than once in a day when observing fasts, while those of the Shwetambar sect observing a fast survive on boiled water, which is consumed only between Sunrise and Sunset.

Majority of Jains observe what is known as the “Ratri Bhojan Tyag,” in which they do not eat anything after Sunset. Some abstain from water during this time as well. For many working people, it is difficult to have an early evening meal, so the majority follow “Ratri Bhojan Tyag” only during Paryushan.

PERSON-CENTERED APPROACH

Just as other religions provide special concessions to their followers who are ill or traveling or in some way unable to keep fasts, so does the Jain religion. There are many ways in which a follower of the Jain religion can offer his/her prayer and perform a fast. A doctor who is well informed of the methods of fasting in the Jain religion can easily devise a safe, yet fulfilling fast plan, and craft an effective management strategy. The doctor can request the patient to observe one type of fast which is less demanding on the

patient’s body instead of the ones which require significant caloric restriction and staying without water or food for a long time. A religious leader of the Sthanak Shwetambar sect at Indore is of the view that just by eating less, one can offer prayer, and this too will be considered a fast. The various Jain fasts are classified from a diabeto-centric viewpoint in Table 1.

PREFAST COUNSELING/ASSESSMENT

Discussion about fasting should be initiated prior to the fast.^[1,4] This should include the potential discomforts and risks of fasting, and means of mitigating them. The person’s exact perspective of fasting, including duration of fast, allowance for liquids and snacks during the day, and acceptance of sublingual foods and freedom to break the fast in case of significant discomfort must be clarified. Prefast assessment comprises comprehensive history taking, physical examination, and investigations aimed at identifying stigmata of target organ damage so that strategies can be made to optimize health during fasts. Factors that may increase the risk of hypoglycemia, hypoglycemia unawareness, and dehydration must be noted. Prefast counseling should include an explanation of the symptoms of hypoglycemia and hypoglycemia awareness training.^[5]

Table 1: Jain fasts and diabetes

Fast name	Nature of fasting
Fasts contraindicated in diabetes	
Chovihar Upavas	To give up both food and water, To give up food only for the whole day allowed from starting from the previous Sunset to the 2 nd day Sunrise, approximately 36 h. Water can be taken between 9 am and 6 pm
Atthai	8-day upavas. Only boiled water allowed from 9 am to 6 pm
Mas Khaman	30-day upavas. Only boiled water allowed from 9 am to 6 pm
Varshitap	Devotees fasts for 1 year, in which, there is fasting for 1 day and observing Byasana for 1 day, i.e., alternate days. Sometimes, fasting can be done for 2 days continuously. It is broken by sugarcane juice
Fasts allowed only in diabetes managed by lifestyle modification or nonsecretagogue, noninsulin glucose-lowering drugs	
Tiwihar Upavas	No diet during day and night, only boiled water from 9 am to 6 pm
Upavas	To give up food only for the whole day allowed from starting from the previous Sunset to the 2 nd day Sunrise, approximately 36 h. Water can be taken between 9 am and 6 pm
Bela (also called chhath)	2-day upavas. Only boiled water allowed from 9 am to 6 pm
Tela (also called asththam)	3-day upavas. Only boiled water allowed from 9 am to 6 pm
Fasts allowed in diabetes, with dose modification	
Byasana	Food can be taken, only two meals are allowed, at any time of the day, twice a day. Any time between 9 am and 5 pm, with boiled water in day time. No caloric intake between the two meals
Ekasana	Only one meal is allowed at anaj time from 9 am to 5 pm, with boiled water in day time
Ayambil	Only one meal of boiled food allowed, without salt, sugar, oil, ghee, vegetables, and fruits. Only boiled food
Oliji	9-day tapasya with ayambil, i.e., one meal without salt, sugar, oil, ghee, vegetables, fruits. Only boiled food with chapatti can be taken
Navapad ki Oiliji	9-day tapasaya with ayambil, but only one grain per day is allowed (1 st day rice, 2 nd day wheat, 3 rd day moong, 4 th day chana, 5 th day urad, and remaining 4 days rice). This also detoxifies the body

The concept of shared decision-making and person-centeredness must be followed in letter and in spirit while considering whether a particular individual can fast safely or not.^[6] While some fasts are contraindicated, other may be allowed with appropriate dose modification of glucose-lowering therapy [Table 2]. Risk stratification is necessary for many persons with diabetes, especially those on insulin.^[7] This needs a comprehensive assessment as shown in Table 2.

GLYCEMIC MANAGEMENT OF JAIN FASTS

All Jain fasts can be divided into three categories, with regard to their suitability for persons living with diabetes. While some should be strictly avoided by all persons with diabetes, others may be attempted, with caution, under medical supervision, by those controlled on diet and exercise.

HIGH-RISK FASTS

Certain fasts such as tiwihar upavas, upavas, bela (chhath), and tela (asththam) are discouraged in persons taking any form of glucose-lowering therapy. However, persons on once weekly glucagon-like peptide 1 receptor analogs (GLP1RA) may be able to observe these fasts safely. Prudence dictates that due doses of once weekly GLP1RA should be postponed till the completion of fasting: Posologic instructions allow for a 3-day delay in the dose administration of dulaglutide or exenatide QW. Persons on nonsecretagogue therapy, for example, metformin, DPP4i, α -glucosidase inhibitor, or sodium-glucose co-transporter 2 (SGLT2i) may omit their therapy on the day of complete upavas; however, such fasting should be allowed only in healthy individuals, under close medical supervision.

LOW-RISK FASTS

Byasana, Ekasana, and Ratri Bhojan Tyag can be practiced by the majority of healthy Type 2 diabetes, provided

appropriate regime and dose adjustments are made. Most oral glucose-lowering drugs including sensitizers, indirectly acting secretagogues, glucose absorption inhibitors, and excretion enhancers can be used safely.^[8] Directly-acting secretagogues, including modern sulfonylureas and meglitinides, may require dose reduction.^[9] GLP1RA, both once daily and once weekly preparations, need no modification in dose.^[10]

All oral glucose-lowering drugs can be used in Ratri Bhojan Tyag albeit with modification. The evening dose can be a DDP IV inhibitor, SGLT2i, or a glucosidase inhibitor. Secretagogues should preferably be avoided, or taken in half dose, in patients wish to fast from dusk to dawn. SGLT2i should be avoided during prolonged periods of abstinence from water. The evening dose should preferably be avoided, or taken in half dose, in patients wish to fast from dusk to dawn.

Insulin-based regimens may need to be modified^[7] to suit Jain fasts. Persons who practice Ratri Bhojan Tyag should prefer insulin analogs with a lower risk of nocturnal hypoglycemia. If basal insulin is inadequate, prandial coverage may be achieved by either adding a rapid-acting insulin analog or by using dual action insulin. The variable duration of Ratri Bhojan Tyag fast, with fasting period extending to 14–15 h during winter, call for the use of flexible insulin regimens and preparations. Insulin degludec aspart (I Deg Asp), which need not necessarily be injected at antipodal meals,^[11] is a suitable option for Jains who practice Ratri Bhojan Tyag. An intensive regimen of two rapid-acting insulin and one dual-acting regimen may be required if a twice daily strategy proves inadequate.

During intensive fast with strict restrictions, for example, Byasana and Ekasana, further modification in insulin regimens may be required [Table 3]. Postfast counseling and review^[12] is done to evaluate the patient's health and to lessons learned for review the future periods of fasting.

CONCLUSION

This review has attempted to describe and classify Jain fasts from a diabeto-centric viewpoint. The author suggests rational therapeutic modification which may allow devout adherent to fast in a safe and fulfilling manner. It is hoped that this collation helps achieve better glycemic management for those who observe Jain fasts, and stimulates scientific research in this field of diabetology.

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Table 2: Factors influencing the approach to glucose-lowering drug treatment during fasting

The fast
Duration of fast
Absolute restriction of fluids/solids or not
Frequency of fast (once weekly vs. once monthly vs. once yearly)
The drug
Potential for hypoglycemia
Potential for dehydration
Potential for gastrointestinal upset
The person
Risk of hypoglycemia
Risk of hypoglycemia unawareness
Ability to self-monitor blood glucose

Table 3: Dose modification in Jain fasts

Fast/drugs	Byasana, Ratri Bhojan Tyag	Ekasana, Ayambil, Oliji	Comments
Modern sulfonylureas	Full dose am, half dose pm	Half dose, OD	Prefer gliclazide modified release, glimepiride, glipizide
Metformin	OD or BD	OD; SR preparation	Prefer SR preparation
Dipeptidyl peptidase-4 inhibitors	No change	Prefer OD dosage	Safe to use
Alpha-glucosidase inhibitors	BD dose	OD dose	May not provide control of fasting glucose
Pioglitazone	No change	No change	Safe to use
Sodium-glucose co-transporter inhibitor	No change	No changes	Maintain hydration
Glucagon-like peptide 1 receptor analogs	No change	No change	Maintain hydration
BI	10-20% dose reduction	25% dose reduction	Prefer analogs, i.e., degludec, detemir, glargine
Dual action insulin	Full dose am, half dose pm	25% dose reduction, am	Prefer co-formulations, i.e., I degree Asp
Basal plus insulin	Basal +2 bolus	Basal +1 bolus	Prefer analogs, i.e., aspart lispro, glulisine as bolus
Hetero-mix insulin	50:50 premix am, 30:70 or 25:75 premix pm	50:50 premix OD	Prefer analogs, i.e., BI Asp, lispro mixture

BI: Basal insulin, SR: Sustained release

Conflicts of interest

There are no conflicts of interest.

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