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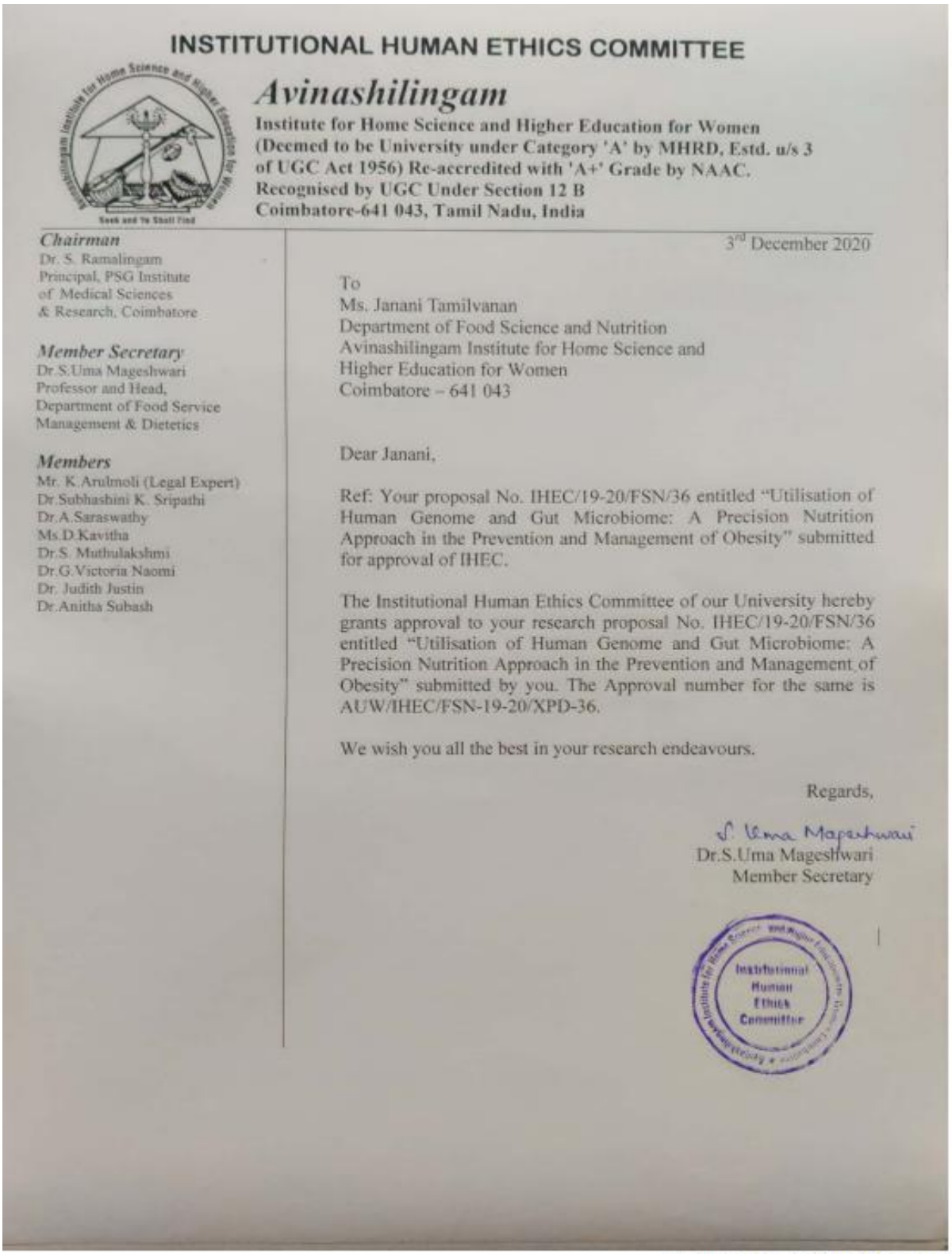
Appendix – I



INSTITUTIONAL HUMAN ETHICS COMMITTEE

Avinashilingam

Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956) Re-accredited with 'A+' Grade by NAAC.
Recognised by UGC Under Section 12 B
Coimbatore-641 043, Tamil Nadu, India

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Dr.A.Saraswathy
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Dr.G.Victoria Naomi
Dr. Judith Justin
Dr.Anitha Subash

3rd December 2020

To
Ms. Janani Tamilvanan
Department of Food Science and Nutrition
Avinashilingam Institute for Home Science and
Higher Education for Women
Coimbatore – 641 043

Dear Janani,

Ref: Your proposal No. IHEC/19-20/FSN/36 entitled "Utilisation of Human Genome and Gut Microbiome: A Precision Nutrition Approach in the Prevention and Management of Obesity" submitted for approval of IHEC.

The Institutional Human Ethics Committee of our University hereby grants approval to your research proposal No. IHEC/19-20/FSN/36 entitled "Utilisation of Human Genome and Gut Microbiome: A Precision Nutrition Approach in the Prevention and Management of Obesity" submitted by you. The Approval number for the same is AUW/IHEC/FSN-19-20/XPD-36.

We wish you all the best in your research endeavours.

Regards,

S. Uma Mageshwari
Dr.S.Uma Mageshwari
Member Secretary

Institutional Human Ethics Committee

Scanned with CamScanner

Appendix – II

QUESTIONNAIRE TO ASSESS THE CONSUMER ACCEPTANCE OF NUTRIGENETIC TESTING AMONG INDIAN CONSUMERS

Confidentiality Statement

I Janani Tamilvanan, Ph. D Scholar, Department of Food Science and Nutrition, hereby assure that the data collected from the volunteers for my Research study entitled Precision Nutrition Approach for prevention and Management of obesity will not be disclosed at any point for any cause, and the details will be kept Confidential. Consent: The information regarding the study, has been read by me, and has been explained to me by the investigator. Having understood the same, I hereby give my consent to them to fulfil the requirements of this on-line questionnaire.

Questions to Assess the Consumer Acceptance of Nutrigenetic Testing among Indian Consumers

Section – I: Personal Information

1. Name:
2. Place: _____ city
3. Age: _____ yrs

4. **Occupation:**
□ Student □ House wife □ Business □ Private Job □ Government Job □ Retired

5.**Highest level of education:**
□ Graduation degree □ post-graduation degree □ Professional degree □ Doctoral Degree

6. **Current-medical condition**:

□ Diabetes □ Hypertension □Hyperlipidaemia□ Cancer □ Heart issues □ Thyroid □ Others

7. **Does any of your family members have any of the following conditions**:
□ Diabetes □ Hypertension □ Hyperlipidaemia□ Cancer □ Heart issues □Thyroid

8. Please tick the following that applies to your lifestyle choices:
□ Smoking □ Regular alcohol consumption □ Sugar addiction □ < 6 hours of sleep

9. **Please choose that is most appropriate about your physical activity levels:**
□ Sedentary/ no physical Lifestyle □ Irregular workout schedule □ Workout 3-5 days a week □ Daily workout

Section – II: Recollecting Information about the genetic test and information

10. From which company did you take the test from? _____
11. Year: _____
12. Did someone explain the report? Yes/ No
13. If yes, then please answer:
□ Physician □ Dietitian □ Genetic counsellor □ Do not know
14. Mode of delivery of the advice given: □ Online □ face to face

Section – III: Assessment of Consumer Acceptance

15. *Provided below are questions to assess various aspects of consumer acceptance. To what extent do you agree or disagree with each statement.*

I	Attitudes & perceptions of the consumers	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	Personalized nutrition is much more time-consuming.					
2	Personalised nutrition can add cost by advising to consume specific food.					
3	Personalised nutrition advice is not feasible because it is difficult to prepare different foods for different family members.					
4	Personalised nutrition is easier to understand and specific than general diet advice.					
5	Genotype-based personalized nutrition advice is much Personalized more enjoyable.					
6	Costs of diseases can be prevented by personalized nutrition.					

	tivation factor of consumers	ngly disagree	agree	her agree or disagree	ee	ngly agree
	Personalized nutrition makes me able to live longer in good health.					
2.	Personalized nutrition can help disease prevention.					
3.	If I weigh up the benefits and drawbacks of genetic-based personalized nutrition,I can see more benefits.					
4.	If I weigh up the benefits and drawbacks of genetic-based personalized nutrition,I can see more drawbacks.					
5.	Personalised nutrition approach didn't fulfil my expectations.					
6.	The negative results from the test report demotivates me to eat healthily.					

III	Individual's perceptions about sources and genetic information provider	Strongly disagree	disagree	Neither agree or disagree	agree	Strongly agree
1.	The service provider was very capable of providing personalised nutrition advice.					
2.	The service provider had much knowledge and skills about personalised nutrition advice.					
3.	The complex scientific results were simplified and presented through positively framed simple messages.					
4.	There is little easily available and easy to understand information in the personalised nutrition report.					
5.	Health care provider lacked adequate education and enough time.					
6.	Lack of agreement among, and accountability of service providers.					

IV	Confidence Level of Consumers	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	I feel that genetic-based personalized nutrition has a lot of risks.					
2	I feel that there is a lot of uncertainty around genetic-based personalized nutrition.					
3.	I now have full control of my health by using the personalised nutrition advice based on my genetics.					
4.	I feelthat I could prevent diseases by a diet adjusted to my genetic background.					

V	Utility of DNA based dietary advice	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1.	I benefited by using personalised nutrition advice in my daily life.					
2.	My family benefited by using personalised nutrition advice in my daily life.					
3.	This gene-based dietary advice has helped me to prevent the disease.					
4.	I still follow my previous diet habits to the greatest degree possible, and only have to complement my diet with some personalized foods and food supplements.					
5.	Knowing about my own personalised nutrition test results caused some anxiety.					
6.	Personalised nutrition puts restriction on cultural dietary habits					

16. Please mention the one you agree with-

- I intend to adopt personalised nutrition recommendations in my daily life.
- I am considering to adopting personalised nutrition in the near future.
- I will definitely adopt personalised nutrition recommendations.
- I am benefited by personalised nutrition recommendations

Appendix – III

Lifestyle assessment questionnaire used for dietary assessment

Name:

Date of joining:

Personal information:

Age: Gender: Height: Weight:

BMI: Waist circumference: Body fat%:

Marital status: No of children:

Pregnancy: □ Normal (vaginal) □ C- section □ IVF Menstrual cycles: □ Regular □ Irregular

Normal weight range:

Duration of weight gain:

Chief complaint (s):

Weight loss history:

Have you tried losing weight before? □ Yes □ No

If yes? What are the ways that you tried to lose your body weight?

□ Diet _____ □ Gym □ Medications □ Weight loss supplements/ tablets

□ Others _____

Weight regain tendency: □ present □ absent

Have you maintained any weight loss for up to 1 year on any of these efforts? □ Yes □ No

Regional distribution of fat

Current Medical Conditions:

□ Thyroid problems (hypo / hyper) □ Hypertension

□ PCOS □ Obesity

□ PCOD □ High cholesterol

□ Diabetes □ Arthritis/ Joint pain

□ Others, kindly mention _____ □ Digestive problems

Family History:

□ Diabetic □ High blood pressure □ High cholesterol □ Thyroid □ Obesity

Food Type: □ Vegetarian □ Non- vegetarian □ Ovo-vegetarian

Allergy: □ Yes □ No, If yes please mention _____

Food dislikes: □ Yes □ No if yes, please mention

Quantity of water per day: 2- 2.5 litres of water per day: □ Yes □ No

Snacking: □ Daily □ > 3 times in a week □ Occasional

Cravings: □ Yes □ No If yes, what foods _____

Frequency of dining out: □ Yes □ No

Diet recall:

Time	Meals	comments

Sleep (6-8 hours): □ Yes □ No

Sex life: Sexually active: □ Yes □ No

Stress levels: □ highly stressed on all the days □ Normal levels of stress □ Happy and positive

Physical activity:

□ Nil □ Occasionally and not consistent □ Regular (> 4 days in a week) □ everyday

Hormonal imbalances:

□ PCOS □ PCOD □ Hypothyroid □ Pre- diabetic □ diabetic □ Irregular menstrual cycles

□ Post menopause □ Menopause

Genetics: If data available, tick the appropriate:

□ Over eating genes

□ Propensity to weight regain

□ Sweet taste or fatty food perception

High protein beneficial □ yes □ No

High fibre beneficial □ yes □ No

□ Micro nutrient needs _____.

Unfavourable response to □ Carbs

□ PUFA □ MUFA □ Saturated fats

□ Lactose intolerant

□ Gluten intolerant

□ Slow metaboliser

_____

Other Notes:

Medical reports: □ Yes □ No

Next follow up due on:

Appendix -IV

Plaigiarism Report

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)
Re-accredited with 'A++' Grade by NAAC.CGPA 3.65/4, Category I by UGC
Coimbatore – 641 043, Tamil Nadu, India

PLAGIARISM CHECK REPORT (THESES)

1.	Name of the Research Scholar	Janani. T
2.	Roll No. and Year of Registration	18PHFNF004, 2018
3.	Department	Food Science and Nutrition
4.	Name of the Research Guide	Dr. C.A. Kalpana
5.	Title of the Thesis / Dissertation	Precision Nutrition Approach for Prevention and management of Obesity
6.	Similarity Content (%) Identified	**5%**
7.	Software Used	Turnitin
8.	Date of Verification	19-03-2024

Note : The report is excluding 14 Consecutive words, Review of Literature and Quoted Materials.

Checked by :

14/3/24
Information Scientist

Janani. T
Research Scholar

19.03.24
Assistant Librarian

19/3/24
Research Guide

Date: 19-03-2024

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Chapter 1. Introduction

Nearly 800 million people are obese worldwide and more than one billion are at risk of becoming overweight or obesity, according to the data in the World Obesity Atlas, published by the World Obesity Federation (2023). It is evident that prevalence of obesity has grown rapidly fields in the last few decades and according to WHO, (2022) estimated that almost half of the world's adult population will be overweight or obese by 2030.

The rising numbers of obese individuals and obesity represents a growing public health challenge worldwide in terms of health care evolves the individual and to the country. While there is a considerable health care cost attributable in the treatment and management of obesity, the cost of failing to prevent and treat obesity will be far higher. Currently it is estimated to be $8 trillion of potential income is spent to treat obesity. (World Obesity Federation, 2022).

The COVID-19 pandemic has further fuelled the obesity epidemic during the period from 2020 to 2022. Extensive restrictions or lockdowns have curtailed the movements outside home, paved way for sedentary behaviours that has led to increased weight gain. This rise in obesity prevalence clearly indicates a side- effect of preventing and managing the COVID-19 pandemic which has further worsened the obesity pandemic. (Clemmensen etal.,2020).

Obesity, a multifactorial disease, usually signified by excess body weight. Various factors such as environmental factors like sedentary lifestyle, physical inactivity, improper diet patterns and diet consumption contributing to the increased prevalence of obesity. (Tewoderad et al., 2017).

The human genome project enabled the use of information in the field of genetics and paved way for the utility in clinical settings. There are more than 740 genes associated with obesity and these specific genetic variations associated with diseases are identified from the genome-wide association studies (2007). The single nucleotide polymorphisms are of interest to this study and these are referred to as the most common forms of genetic variations and are termed as polymorphisms because they are found in at least in 1% of the population, unlike rare genetic mutations.

Precision Nutrition Approach For Prevention and management of Obesity

ORIGINALITY REPORT

5%	4%	3%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	eurchembull.com Internet Source	1%
2	www.jazindia.com Internet Source	1%
3	www.cambridge.org Internet Source	<1%
4	Ioannis Arkadianos, Ana M Valdes, Efstathios Marinos, Anna Florou, Rosalynn D Gill, Keith A Grimaldi. "Improved weight management using genetic information to personalize a calorie controlled diet", Nutrition Journal, 2007 Publication	<1%
5	Daiva E. Nielsen, Sarah Shih, Ahmed El-Sohemy. "Perceptions of Genetic Testing for Personalized Nutrition: A Randomized Trial of DNA-Based Dietary Advice", Journal of Nutrigenetics and Nutrigenomics, 2014 Publication	<1%

Appendix – V

Publications

Avinashilingam Institute for HomeScience and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category 1 by UGC
Coimbatore - 641 043, Tamil Nadu, India

Appendix L2

(Item No 5 of Check List) Details of Research Publications

S.No	Article	Journal	Other Details Vol/No/Page No/ Year	Published in UGC-CARE / Scopus Indexed/ Web of Science
1	Consumer Acceptance of genetic testing for personalised nutrition in India	Journal of xi'an shiyou university, Natural sciences Edition	vol. 65 Issue. 03 2022 ISSN: 1673-064	Scopus indexed
2	using gut microbiome as a tool in dietary intervention to prevent & manage obesity	Journal of advanced zoology	Acceptance letter attached	Scopus Indexed

*Proof of list of Journals from Internet to be attached along with copies of reprints.

Scholar : Samanvi T

Supervisor : Dhalpan 10/10/23

10/10/23

Checked By:

HoD/Dean of Respective School