

# Adherence to a gluten free diet in Caucasians and South Asians with coeliac disease, using the coeliac disease adherence test (CDAT) score

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## INTRODUCTION

- A gluten free diet, in people with coeliac disease, leads to symptomatic improvement, histological remission of villous atrophy, improvements in quality of life, reduction in the risk of osteoporosis and gastrointestinal malignancies.
- However, a gluten free diet is difficult to follow and many patients refer to social and practical issues. Dietary adherence to the gluten free diet in coeliac disease has been reported to range from 36% to 96% (Hall *et al.*, 2009). Factors that influence adherence include sociodemographic, age of diagnosis and membership of advocacy groups (Hall *et al.* 2009).
- There is very limited literature exploring adherence to the gluten free diet by South Asians with coeliac disease. Over 10 years ago Butterworth *et al.*, (2004) indicated South Asian patients self reported more frequent consumption of gluten containing foods compared with Caucasians.

**STUDY AIM:** To identify differences between the adherence to a gluten free diet in patients with coeliac disease from Caucasian and South Asian populations in the UK.

## METHODS

- The participants were recruited from the coeliac disease database held within the University Hospitals of Leicester's (UHL) pathology department, patients diagnosed from 2004 onwards were selected. From 1248 histologically confirmed patients with coeliac disease 972 met the inclusion criteria.
- The postal survey included the questionnaire from Butterworth *et al* (2004) and the coeliac disease adherence test (CDAT) questionnaire (Leffler *et al* 2009) with available support in 7 ethnic languages
- Data was analysed using SPSS (v22.0). Chi squared, t-test and logistic regression were performed.
- Ethical approval was granted through the procedures of the University of Roehampton and the Health Research Authority (REC number: 14/LO/2128).

## RESULTS

- Questionnaires were returned by 375 people with histologically confirmed coeliac disease: 337 Caucasians (239 females, 98 males) and 38 Asians (27females, 10males).
- The completion rate for the Caucasian population was 40.6% (n=337) and 26.5%(n=38) for South Asian population.

**Table 1. Self reported ingestion of gluten containing foods by South Asians and Caucasians**

Frequency of gluten ingestion as perceived by patient	South Asians (n=38)	Caucasians (n=337)
Never	57.9% (22)	62.9% (212)
Once a month	21.1% (8)	25.5% (86)
Once a week	15.8% (6)	9.2% (31)
Daily gluten ingestion	5.3% (2)	1.8% (6)

## RESULTS

- Gluten free dietary adherence: CDAT score ranged from 7 to 30, mean scores for Caucasians and South Asians were similar (14.2 and 15.4 respectively; NS). The proportion of Caucasians and South Asians self reporting to never consume gluten were also similar (63% and 58%: NS), as shown in Table 1.
- South Asians with coeliac disease did report more difficulties following the gluten free diet (Table 2), a high proportion of all participants indicated the need for more gluten free foods to be prescribed.

**Table 2. Difficulties reported following the GFD in South Asians and Caucasians**

The % (n) who responded 'yes'	South Asians (n=38)	Caucasians (n=337)
I don't understand what foods I can eat	76.3% (29)	4.5% (15)
I don't understand food labelling	52.6% (20)	3.9% (13)
I don't have time to prepare the different meals	2.6% (1)	7.4% (25)
Gluten free foods are unpleasant	81.6% (31)	57.0% (192)
Gluten free foods are expensive	97.4% (37)	78.3% (264)
My GP does not prescribe enough	94.7% (36)	73.6% (248)

- 93% reported they received information about Coeliac UK, a similar proportion of Caucasians and South Asians joined Coeliac UK (55% and 42% respectively: NS)
- Membership of Coeliac UK, affordability of gluten free foods and understanding food labelling were significant factors in gluten free dietary adherence.

## CONCLUSION

- Our study found no ethnic difference in adherence to the gluten free diet, this is in contrast to an earlier study by Butterworth *et al.* (2004). A lower percentage of Caucasians and South Asians reported daily ingestion of gluten in our study compared with Butterworth *et al.* (18% of Caucasians and 19% of South Asians).
- A high proportion of all participants indicated the need for more gluten free foods to be prescribed. Membership of the Coeliac UK and affordability of gluten free products were associated with adherence to the gluten free diet.
- The number of South Asian responses is relatively small (n=38); it is important to recruit a larger cohort of South Asians with coeliac disease to further our understanding of specific factors influencing their adherence to the gluten free diet such as understanding what food they can consume and food labelling.

## REFERENCES:

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