

# Study the Relationship between Religions with Obesity and Its Related Disorders

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KEYWORDS	ABSTRACT						
Obesity, overweight,	Overweight and ol	besity in children and adolescents ha	ave been shown to be on the rise in recent				
religion,	years. This study	examined the relationship between	n type 2 diabetes and obesity in various				
epidemiology.	religious contexts.	Randomly chosen children and teen	agers between the ages of 10 and 19 were				
	asked questions on various facets of epidemiology, and a physical examination was also						
	conducted. The m	najority of the population in the re	esearch region is made up of Christians,				
	Muslims, Sikhs, a	nd Hindus. Sikhs and Hindus make	up the majority of the population. It has				
	been noted that c	ompared to people of other religio	ns, Hindus had higher rates of impaired				
	glucose tolerance,	diabetes, and obesity. Religion can	often be used as a marker of ethnic group				
	because of the clo	se correlation between religious bel	iefs and cultural background. In an effort				
	to determine the d	egree of genetic homogeneity throu	igh inbreeding, maintained environmental				
	consistency, nutrit	tional differences, etc., there has b	been a great deal of interest in religious				
	diversity. To supp	ort the link between religions and o	besity and related illnesses, more research				
	is needed.						

### INTRODUCTION

Globally, obesity and its health effects are acknowledged as serious public health issues. Overweight is a global public health concern (Popkin et al., 1998, Sobal 2001, WHO, 1998). Genetic, physiological, metabolic, behavioral, psychological, and social variables are among the several causes of obesity (Flegal et al. 2002). Obesity is linked to a number of biosocial characteristics, such as caste, education, religion, employment, and lifestyle choices. Religion might have an impact on one's health. The increasing quantity of accurate sociological and epidemiologic studies has strengthened the case for the association between religion and health.

After reviewing these data, Ellison and Levin (1998) concluded that there is a beneficial correlation between religion and health. Studies on the connection between religion and obesity were scarce. The literature has long demonstrated the link between religion and health. To comprehend novel predictors of obesity and associated illnesses, more study is required. The current study examined the relationship between type 2 diabetes and obesity in various religious contexts. Numerous studies indicate that religion and health are positively correlated (Strawbridge et al., 2001, Koenig et al., 2001, Hyyppa and Maki 2001).

# MATERIALS AND METHODS

A questionnaire, nutrition survey, and health check had been completed by 2048 youngsters. 1017 of these were from the urban population, and 1031 from the rural one. Randomly chosen children and teenagers between the ages of 10 and 19 were questioned about several facets of epidemiology and had a physical examination. On the self-designed consent form, approval from the parents of the children undergoing examination and questionnaire survey was also obtained. Based on the BMI-for-age tables, the Centers Control and for Disease Prevention (CDC) recommends two levels of worry for children.

Children are "at risk for overweight" if they are at or above the 85th percentile. They are "overweight" if they are at or above the 95th percentile. The World Health Organization Expert Committee on Physical Status 1998's recommendations serve as the basis for the threshold for underweight less than the fifth percentile.

A blood sugar fast was conducted. The WHO's original recommendations for diabetes mellitus diagnostic criteria (1985) have been replaced.The following updated criteria are applied when diagnosing diabetes: Categories of Fasting plasma glucose (FPG) values are as follows:

• FPG <110 mg/dl(6.1 mmol/l) = normal fasting glucose;

- FPG 110 (6.1 mmol/l)and <126 mg/dl (7.0 mmol/l) = IFG (Impaired Fasting Glucose)/Prediabetes.
- FPG ≥126 mg/dl (7.0 mmol/l)= diabetes (Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus (2003)

The research area includes members of the Christian, Muslim, Sikh, and Hindu communities. Sikhs and Hindus make up the majority of the population. (Graph 1). It has been shown that compared to people of other religions, Hindus had higher rates of impaired glucose tolerance, diabetes, and overweight persons (Table 1).

## **RESULTS AND DISCUSSION**





Religion can often be used as a marker of ethnic group because of the close correlation between religious beliefs and cultural background. In an effort to determine the degree of genetic homogeneity through inbreeding, maintained environmental consistency, nutritional differences, etc., there has been a great deal of interest in religious diversity.

The greater prevalence of diabetes among West Bengali Hindus living in rural regions was noted by Chhetri et al. (1975). However, the Muslim population was higher in metropolitan areas. However, there were very few Muslims and Christians. In East Pakistan, Hindus had a greater prevalence of diabetes (2.1%) than Muslims (1.3%), according to West and Kalbflesch (1966).

"The Muslim population seems to be relatively spared of this disease," Pai et al. (1966) also noted. This could

be because Muslims in rural areas had a lower socioeconomic level and because their dietary and cultural practices differed. Although Sachdeva's 1968 study only covered an urban area of Punjab, it did not identify a significant difference in the prevalence of diabetes between Hindus (3.7%) and Sikhs (3.8%). In a similar vein, no discernible difference was discovered between the two largest communities (Hindus and Sikhs) in the study conducted by Berry et al. (1966) in Chandigarh, another urban area. However, the data used in this study more accurately represents the entire population because it was gathered from both urban and rural populations. Here it has been found that obesity and diabetes is more prevalent in Hindus than in the Sikhs, Muslims and Christians.

Group/Sub Group	Hindu		Sikh		Muslim		Christian	
	Ν	%	Ν	%	Ν	%	N	%
All Data	1641	80.13	80.13	15.14	76	3.71	21	1.03
FBG Categories							·	
1. <110	1598	80.18	298	14.95	76	3.81	21	1.05
2. 110-126	25	78.12	7	21.88				
3.>=126	18	78.26	5	21.74				
Chi^2=4.37(df:6) C=0.05								
BMI Categories								
1. <18.5	1107	81.58	182	13.41	55	4.05	13	0.96
2. 18.5-22.9	397	76.79	96	18.57	18	3.48	6	1.16

#### Table 1:Prevalence of impaired glucose levels, diabetes, Obesity in different religions.

3. 23.0-27.5	110	78.57	27	19.29	2	1.43	1	0.71
4.>27.5	27	79.41	5	14.71	1	2.94	1	2.94
Chi^2=13.43(df:9) C=0.08;								
Percentile Based								
Under Wt.	422	83.07	57	11.22	26	5.12	3	0.59
Healthy Wt.	1053	79.59	207	15.65	46	3.48	17	1.28
At Risk	94	74.02	31	24.41	2	1.57		
Over Wt	72	80.00	15	16.67	2	2.22	1	1.11
Chi^2=22.04**(df:9) C=0.10;								

One possible correlation between religion and death could be body weight (McCullough et al., 2000). It has been suggested that religion may protect against excessive overweight (Allison et al., 2001; Troiana et al., 1996). There are multiple ways that religion can lead to a reduction in body weight. According to Lapane et al. (1997), participants in the Pawtucket Heart Health Program who were churchgoers had a higher likelihood of being overweight—above 20 percent—than non-participants. In comparison to nonmembers, churchgoers also had greater blood pressure and total cholesterol. The prior research on religion and body weight can, at most, demonstrate a correlation or arelationship.

Ferraro (1998) discovered that there were more obese people in states with greater percentages of people claiming religious affiliation and in states with a larger percentage of Baptists, based on state-level ecological data and a nationwide sample of adults. He also discovered a positive correlation between religious practice and individual-level statistics. Food is frequently served at religious events in place of alcohol as the festive good to be enjoyed. Food, particularly high-fat foods, is central to the social structure of many American religions, from church potluck dinners to Sunday school donuts (Sack, 2001). It should be highlighted that the reverse causal process-a type of social selection-exists and that religion does not cause overweight and obesity (Kim et al., 2003). Maybe a "religious haven"-a comforting and accepting environment for those who are obese and seeking refuge from social stigma-is offered by religious organizations.

Just 162 (81%) of the 200 diabetic women who participated in the previous trial were respondents. Hindus made up 62% of the respondents, followed by Muslims (17%), Sikhs (5%), Christians (6%), Jains (7%), and Sindhis (9%). According to the study, women of all religions who are overweight or obese have a substantial correlation with diabetes (Yadav and Bharati, 2016).

Compared to the Hindu population as a whole, Muslim women living in urban and rural areas are far more likely to be overweight or obese. Still, there is no statistically significant difference between Muslim males in rural and urban areas. Among the four subpopulations, Sikhs are statistically much more likely to be overweight or obese. Male Sikhs from both urban and rural areas were more likely to be overweight or obese than members of the Hindu community as a whole. Regarding the Sikh subpopulation, independent analyses of the National Sample Survey's 61st round (2004–05) on consumption expenditure—which are not presented here—show that, despite variations in dietary patterns, Sikhs' overall calorie and fat intake across income groups is not significantly different from that of the equivalent income groups in the broader Indian population.

Due to data limitations, it is not possible to identify significant socio-cultural traits unique to the Sikhs that could explain their elevated body mass index. (Donato and Siddiqui, 2016). Some studies have suggested that cultural practices and social restrictions on physical activity (and workforce participation) and dietary behavior may be "possible" causes of higher rates of obesity prevalence in female subpopulations; however, further analysis has been hampered by data limitations (Griffiths and Bentley 2001; Chopra et al. 2013; Misra and Shrivastava 2013; Misra et al. 2013). The importance of understanding the socio-cultural variables of dietary choices and physical activity, which influence overweight/obesity, is becoming increasingly apparent.

In this sense, rather than applying policy consistently to every socio-cultural group, it is likely to be more effective if it is targeted in a way that acknowledges variety. Males have a stronger socio-cultural correlation than females have between wealth and being overweight or obese (Swinburn et al. 2011). There is proof that religion has a significant, separate role as well, since persons who identify as belonging to the same ethnic group but distinct religious groups have varied risks for the various health indices. The ethnic/religious patterning of several factors, including self-assessed health, long-term sickness that limits activity, waist-hip ratio, body mass index, and tobacco use, was lessened when socioeconomic level was taken into account (Saffron & James 2010).

#### CONCLUSION

It is important to recognize the heterogeneity in determining the relationship between health and ethnicity/religion in order to comprehend the intricate interaction that exists between these three factors. Adequate policy strategies must be put into action. To support the link between religions and obesity and related illnesses, more research is needed.

#### REFERENCES

- Allison DB, Moonseong H, Fontaine KR, Hoffman DJ. Body weight, body composition and longevity. In: Bojorntorp P (ed). *International textbook of obesity*. John Wiley and Sons: New York; 2001. pp 31–48.
- Berry, J.N., Chakravorty, R.N., Gupta, H.D. and Malik, K. Prevalence of diabetes in a North Indian Town. Ind. J. Med. Res., 1966; 54: 11.
- 3. Center for Disease Control (CDC). Body mass Index: BMI for children and teens.2000.apps.nccd.cdc.gov/dnpabmi.
- 4. Centers for Disease Control and Prevention: National Diabetes Fact Sheet: General Information and National Estimates on Diabetes in the United States, 2003. *Rev.ed. Atlanta, Ga., U.S. Department of Health and Human Services, Centers for Disease Control and Prevention*, 2004
- Chhetri, M.K., Raychaudhuri, B. and Bhattacharya Bijan. Epidemiological study of diabetes mellitus in West Bengal. Jour. Diab. Assoc. India, 1975; XV: 97-104.
- 6. Chopra, S. Misra, A. Gulati, S. Gupta, R. Overweight, related obesity and noncommunicable diseases in Asian Indian girls and European women Journal of Clinical Nutrition, 2002; 67: 688-96.
- Ellison CG, Levin JS. The religion-health connection: Evidence, theory, and future directions. Health Education and Behavior. 1998;25:700–20. [PubMed]
- 8. Ferraro KF. Firm believers? Religion, body weight, and well-being. Review of Religious Research. 1998;39:224–44.
- Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999–2000. *Journal of the American Medical Association*.2002;14:1773–78. [PubMed]
- 10. Griffiths P and Bentley M.The nutrition transition is underway in India.*Community and International Nutrition*. 2001; 131:2692-700.
- Hyyppa MT, Maki J. Individual-level relationships between social capital and self-rated health in a bilingual community. *Prev Med*. 2001 Feb;32(2):148–55. [PubMed]

- Kim KH, Sobal J, Wethington E. Religion and body weight. *International Journal of Obesity and Related Metabolic Disorders*. 2003;27:469– 77. [PubMed]
- 13. Koenig HG, Larson DB, Larson SS. Religion and coping with serious medical illness. *Ann Pharmacother*. 2001;35:352–9. [PubMed]
- 14. Lapane KL, Lasater TM, Allan C, Carleton RA. Religion and cardiovascular disease risk. *Journal* of *Religion and Health*. 1997;36:155–63.
- 15. McCullough ME, Hoyt WT, Larson DB, Koenig HG. Religious involvement and mortality: a metaanalytic review. *Health Psychol* 2000; 19: 211–222.
- 16. Misra A, ShrivastavaU. Obesity and dyslipidemia in South Asians. *Nutrients*. 2013;5:2708-33.
- Misra A,Singhal N Sivakumar B et al.Nutrition transition in India: secular trends in dietary intake and their relationship to diet-related noncommunicable diseases *Journal of Diabetes*. 2011; 3: 278 – 92.
- Pai, K.N., Mathew Roy, V.H. and John, K.K. Incidence and pattern of diabetes in Trivandrum. In: "Diabetes in Tropics", ed. Patel, J.C. and Talwalkar, N.G.:*Diabetes Association of India*, Bombay, 40. 1966
- Popkin BM, Doak CM. The obesity epidemic is a worldwide phenomenon. *Nutr Rev* 1998; 56: 106– 114. | PubMed | ISI | ChemPort |
- 20. SachdevaSanjogta. Prevalence of diabetes mellitus in 6000 urban population, Tripuri. M.D., Punjabi University, Patiala.1968.
- 21. Sack D. Whitebread Protestants: Food and religion in American culture. New York: Palgrave; 2001.
- 22. Saffron Karlsen & James Y. Nazroo. Religious and ethnic differences in health: evidence from the Health Surveys for England 1999 and 2004.*Ethnicity and health* 2010,15(6) 549-568.
- 23. Siddiqui,ZakariaMd and Donato, Ronald Overweight and obesity in India: policy issues from an exploratory multi-level analysis Health Policy Plan .2016; 31 (5): 582-591.
- 24. Sobal J. Commentary: globalization and the epidemiology of obesity. *Int J Epidemiol* 2001; 30: 1136–1137.
- 25. Strawbridge WJ, Shema SJ, Cohen RD, Kaplan GA. Religious attendance increases survival by improving and maintaining good health behaviors, mental health, and social relationships. *Ann Behav Med.* 2001;23:68–74.
- 26. Swinburn,B ,Sacks,G,Hall,K et al. The global obesity pandemic: shaped by global drivers and local environment. *The Lancet.* 2011; *378*: 804-14.

- 27. The Expert Committee on the Diagnosis and Classification of Diabetes Mellitus From the American Diabetes Association, Alexandria, Virginia *Diabetes Care*, 2003; 26:S5-S20.
- Troiano RP, Frongillo EA, Sobal J, Levitsky DA. The relationship between body weight and mortality: a quantitative analysis of combined information from existing studies. *Int J ObesRelatMetabDisord* 1996; 20: 63– 75. | PubMed | ChemPort |
- 29. West, K.M. and Kalbflesch, J.M. Glucose tolerance, nutrition and diabetes in Urguay, Venezuela, Malaya and East Pakistan. *Diabetes*, 1978. 1966; 15: 9-18.
- World Health Organization Study Group on Diabetes Mellitus Technical Report Series, 727, WHO Geneva, 1985.
- 31. World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO consultation on Obesity, Geneva, 3–5, June 1997. World Health Organization: Geneva; 1998.
- 32. YadavLaxmiKumariand Bharti, Prakash. Obesity: A Risk Factor of Diabetes Mellitus Type 2 among Women of Different Religions in an Urban Area of Ajmer *International Journal of Science and Research* (IJSR) Volume 5 Issue 11, 2016.