

An Empirical Analysis of White Sugar Relation With Obesity And Diabetes & Its Impacts on Population: Case Study of Small District Pakistan

Muhammad Ali,

¹ Department of Economics, Al MADINAH International University MEDIU,
Kuala Lumpur, Malaysia
alimuhammad1447@gmail.com

Al-Harath Abdulaziz Ateik

² Department of Business Management, Al MADINAH International University MEDIU,
Kuala Lumpur, Malaysia
alharath.ateik@mediu.edu.my

Fariba Azizzadeh

³ Department of Business Administration, Islamic Azad University,
Tehran, Iran
sazizzadeh2010@yahoo.com

Abdoulrahman Aljounaidi

⁴ Department of Business Management, Al MADINAH International University MEDIU,
Kuala Lumpur, Malaysia
abdulrahman.ramez@mediu.edu.my

MOHAMMAD SUBHAN

⁵ Department of Commerce, Aligarh Muslim University, India
subhan8890@gmail.com

Abstract

According to chemical composition of Sugar it contain fructose sucrose & glucose, ribose & deoxyribose normally white sugar stuff is consist of all these fibres & compounds Sugar is a sweetening agent consist of monosaccharides & and disaccharides which increase body fat & in the result of fat volume of obesity increased, it have been seen experimentally, and clinically that it involves in different epidemics obesity & diabetes Mellitus Diabetes T2DM, Its not only limited to these epidemics but also it effect the other human body system dysfunction of beta cell insuline resistance overweight as well as Gestational diabetes a condition elevated level of glucose in the blood during pregnancy if a women suffered gestational diabetes her baby health at risk when baby born it also increase the risk of diabetes T2DM after baby birth So normally white or refine Sugar consumption or its excessive use is not favoable for a happy & healthy life. Here we research about the sugar impacts on a society & its economic impacts on on the peoples life & we gonna do a research in a special small district of Pakistan to find out the sugar impacts on peolpes life economicall & hygienically it has been seen that in past peoples were more healthy & strong when they are not using sugar normally they use substitute of sugar when peoples start using sugar they started suffering from various diseases like diabetes, obesity & many more. Obesity itself is a very lethal disease which give rise many diseases. So in this research we will do a short analysis of sugar usage in small district of Pakistan.

Keywords: Sugar, Obesity, Diabetes, Impacts, District Pakistan.

1. Introduction

Now a days Obesity is the one of major health problem almost all over the world because of obesity millions of peoples die around the world according a general survey 450 Millions peoples died because of obesity & its very big burdens on human health obesity also increase now days because of eating junk food or fast food also fried chicken soft drinks & otehr form of food because of junk

now public are suffering from digestion & differnt kin of stomach problems as well but here we only dicuss the Sugar symptoms cause & its drawbacks on human life now, because of obesity peoples also suffer from depression they always think how to get rid of this fatal epidemic mostlt it has been seen when a person get overweight¹ (Alnso AC & Gonclaves, relationship

between minerak density & body composition 2018) & gon he always worried about weight lose in that tension he also use to be depression & from the analysis of second world war it has been seen been seen that because of increasing in obesity volume increase the morbidity rate¹³ and decrease life expectancy. It is cause of several chronic diseases which are very dangerous for human health including cardiovascular disease, diabetes, and cancer² (Asrani, S. K., Devvarbhavi 2019). The main cause of obesity is the use of refine or white sugar which also increase the the economic & social burden of people's life & when peoples have diabetes then life chances & expectation are dangerously reduced (Flegal KM, Carroll MD, Ogden CL, Curtin LR 2010). Now a global interest also attaches with many disciplines including medicine, nutrition, & other health problems & complications.

Patient of Diabetes & Obesity are increasing dangerously (Global Health Science) because of white Sugar also the factor is Junk food that is also cause of Obesity, now both of these disease is becoming the risk for life & life span are going shorter & shorter due to diabetes & obesity. Both of these disease is wide spreading universally very fast because of, physical inactivity, overweight, urbanization, inactive lifestyle and indecent eating habits. It has been estimated globally that the number of diabetes suffered peoples will be rising to 693 million by 2045 from 451 million in 2017. It is also projected that 49.7% of people living with type-II diabetes are undiagnosed. In type 2 diabetes life ratio is very less mostly it has been from medically most of the public don't know about the disease that they have debates type 2 but suddenly when their health are start raising then go towards hospital for medication & normally majority of the public also not take this issue seriously very few around 10% public take it serious & consult with proper medical doctor & start their treatment until that time debates roots get strong & hollow out the patient from within, resulting in the death of patient¹⁴ (Griera JL, Manzanares JM, Barbany M, Contreras J, Amigó P, 2007).

In the developing countries, diabetes patients are under 64 years of age, while in developing countries, most are in higher age groups but now a days diabetes are the most common diseases every 1 people are suffered from out of 10 normally & now young peoples are also suffering fatly with this disease because of their sedentary lifestyle & bad eating habits .Diabetes in adult population is expected by 69 percent from 2010 to 2030 in the developing countries as compared to 20 percent for developed countries. Pakistan is a developing country and facing the challenges of different disease including diabetes a sharp development in the prevalence of diabetes. However, several research studies have been performed to investigate the outbreak of diabetes epidemic and connected all the risk factors, but estimates of the prevalence of diabetes vary from study to study. There are

no concrete information or data of diabetes outbreak available to find the trends. The purpose of this study was to check the results of refine or white Sugar impacts on public life economically & socially how it affects their life respectively.

2.Literature Review

It was general quantitative experimental study examination where baseline & end line estimation was applied on general public in Small district of Province Punjab Pakistan a years ago. A special survey was conducted in that special district number of peoples were (n=475).Peoples were randomly selected by different rural & urban areas for conducting the survey of general assessment. We begin with an overview of how white Sugar Cause the obesity & prevalence of Diabetes & how many peoples are affected with health issues & suffered economically, patients were undertaken after conducting baseline assessment followed by end line assessment.

An individual-based stochastic Markov model (microsimulation) was also used. The model consists of a chain for each of 2 disease only & economic growth as well. In each disease we make group of 4 young teenage middle age & old & then analyze the total experiment & conducted survey according to that produce the base results (Rosen, J., Brown 2006).

In initial step of treating obesity is understanding what it is and how can it be measured. Every years multiple measurements have been developed and tested to accurately measure adiposity in order to diagnose obesity. Different from adults, practicality is a major deciding factor in choosing an appropriate measurement method for children because adhering to the testing protocols can be a challenge¹³ (Fox, K. R., & Hillsdon, M. 2007).

Excessive use of refined sugars in the human diet in routine life ca cause a lot diseases & problems has been associated with obesity (Bray GA, Nielsen SJ, Popkin BM (2004), type 2 diabetes (T2D), coronary heart disease (CHD), unbalance of sugar liver & different other metabolic reactions (Disease Control and Prevention. 2005–2012).

3.Methodology

3.1 Statistical analysis

Descriptive statistical testing analysis showed the frequency, percentages and knowledge level of the respondents, The survey in which public participated that was quite relate to young adult teenage middle age & old peoples, and the social science stata & shazam was used for this purpose. Questions were based on their knowledge consumption of sugar per day & change in their life style before & after sugar use economically & socially. In most

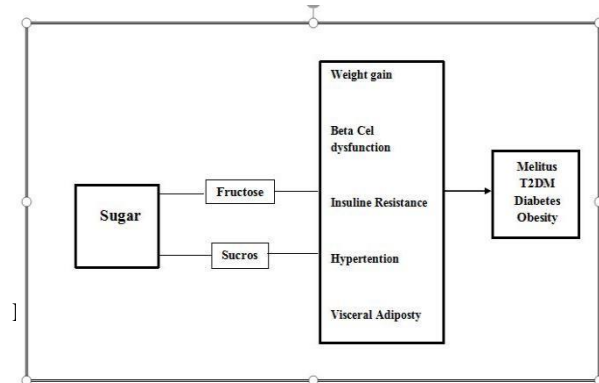
recent data of that district it was assumed that before a few decades peoples are strong healthy & depression less & leading a happy life that was directly connected with Sugar as well because in Pakistan most population are living in rural areas around 70%-80% of Pakistan lived in small villages towns & in county called “Dera” so they mostly dependent on agriculture sector in agriculture secotr usually in Punjab all ditricts 3 to 4 crops cultivated too much wheat ,rice & sugarcane . Sugarcane crops take a whole year almost 12 to 14 month from sowing to ripening. So when Sugarcane crops ready,it is harvested in winter & sold to sugar mills.From 1947 to untill now public cultivate Sugarcane crops in bulk but before 2000 public use Sgracne & make theirsself “Desi Sugar” called GUR when public use GUR they have less obesity very rare & rare & few peoples have Diabetes,But when public consume sugar,their body fat started to increase the volume of obesity also increase peoples are suffering from different types of diseas especially diabetes & many more including depression because when farmer sow the Sugarcane crops & sold to sugar mills they always make trouble for farmers & did not pay on time so they also suffer from depression because of finances so in both cases public are literally suffering a lot from economical socially financially & different other aspects. The model is based on the adult middle age & old population (age 15-60) of the Pakistan district Outcomes are reported from a healthcare experts (Thompson, F. E., McNeel 2009). It comprised of direct medical costs and economics analysis of sugar consumption. Indirect medical & other costs are excluded. So basically on the basis of survey public reported before consumption of sugar they were leading very happy life economically & socially but after using sugar & different other modern way of life they suffering from different kind of problems financially morally as well as health problems so when we sum up the things were a little horrible. Table 1 Model input values and ranges for disease characteristics

*Age-specific, sex-specific are specified in the online

Disease state	Prevalence at simulation start				Costs (annual)			Disability weights			
	Mean (%)	Min (%)	Max (%)	Ref.	Mean	SD	Ref.	Mean	Min	Max	Ref.
Steatosis	10.155*	29.740	58.832	Pakistan Diabetes Association	75	10	Zhang et al 87	2.790	5.338	10.778	Pakistan Medical Association
Overweight	33.473*	-	-	Pakistan Centers for Disease Control diabetes & T2DM	343	129	Lightwood et al, Li et al 98 100	28.58	64.670	67.795	Pakistan Medical Association
Obesity	37.391*	-	-	Pakistan Centers for Disease Control and Prevention	369	344	Lightwood et al, Li et al 98 100	4.753	14.76	29.35	Pakistan Medical Association

Table 2 Socio-demographics characteristics of the respondents

Variables	Categories	Frequencies (n)	Percentage (%)
Sex	Male	342	72
	Female	133	28
Age (years)	15–25	35	166
	26–33	20	95
	34–41	13.60	64.6
	42–49 Years	39	185
	50 Years and above	19	13.96
Monthly income	< 50 US \$	20	35.1
	200–500 US \$	33	38.9
	> 500 US \$	50	20



4.Results

All patients have completed the post-test with mean ± SD age of participants being 15-65 years old. General Public in that district comprised 70% out of which 80% were living in rural areas. Knowledge on DM pre-test score was 23.13 ± 6.45 that increased in post-test to 60.67 ± 5.34 (p < 0.5). Mean score of information on symptoms and causes of DM was 3.33 ± 0.89 for pre-test whereas for post-test it was 7.78 ± 2.12 (p < 0.5). The effect of intervention was significant on diabetes related complications (p < 0.05), symptoms (p < 0.5), overall score (p < 0.5) and preventive practices (p < 0.5). Current model projected that a 50% reduction in added sugars intake will cause reduction & prevalence of obesity ,diabetes ,& diabetes Melitus T2DM more as well as volume of other diseases reduced peoples lifesyle changed active lifestyle working capcity increase from 13% to 50% plus so meanwhile less use of sugar is more better for healthy lifestyle,it is also economic with the good lifestyle.

Hepatic steatosis, obesity, T2D and CHD, disbalance of sugar level, anxiety & somehow a little depression also. Incidence of T2D and CHD would be expected to decrease by 45% (96% CI 18.9 to 35.0) and 9.6 (95% CI 3.1 to 15.8) cases per 1000 people after 2 years, respectively. A 30% reduction in consumption is also projected to annually avert 0.770 million (M) DALYs (96% CI 0.777M to 0.778M) and a total of PKR10.3 billion (B) (95% CI 10.2B to 10.4B) in discounted direct medical costs by 2030. These effects increased proportionally when added sugars intake were reduced by 50%.

5. CONCLUSION

After reviewing data it showed that sugar consumption affect the quality life style, Inactive life style increase the laziness. The public who don't exercise finally loose their health & suffered a lot of disease & also suffered economically. Less consumption of sugar has good results economically & socially. And if public consume less sugar they will get rid of obesity & diabetes & T2DM Diabetes Mellitus as well. Less sugar consumption will decrease the annual increase of obesity patients in both the adults and children. Normally in Pakistan rural areas women just perform domestic work so it has been shown that rural women are more fat than urban comparatively because they just stayed at home & do domestic work. So in our findings we conclude that mostly if public left the consumption of refined sugar & use Desi Sugar or "Gur" which have good for health also economic there is not huge expense required for Desi Sugar "Gur" preparation mostly in rural areas farmers can prepare Desi Sugar Gur self but on the other hand Refined Sugar need to buy from Super store & from Sugar mills & the price of sugar is high adjusted by the sugar monopolist in Pakistan. Most of Sugar mills owner in Pakistan are Political personalities who have much influence on government & they set their own arbitrary prices so that is also bad for individual economically.

The current research suggest that we must be reduce the usage of white sugar so we will get the fruits of both aspects economically & socially economically our finances can be used in other social agent or work get rid of disease diabetes obesity a normal diabetic person have lot expenses of medicine he even not spend much finance for his quality food but on medicine he spend that finance so less consumption of sugar can easily solve the matter of economic & other social problems public can be saved suffering from different kind of disease.

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Muhammad Ali PhD Economics Candidate basically working as research consultant in organization in China he wrote many research papers & attended many international conferences at different topics around the world. Author main research area belongs to health economics, environmental & development economics. Currently working on different research projects related to healthcare & management.

Al-Harath Abdulaziz Mohammed Ateik working as Assistant Professor in Al Madinah International University Malaysia in Human Resource Department Faculty of Finance & Administration Sciences.

Faribah Azzizadeh belongs to the department of management & working as Assistant Professor in University of Tehran. She wrote many research papers on human resource & management. Right now she is also working at different research projects.

Mr Abdulrahman Aljounaidi working as Associate Professor in Al Madinah International University Malaysia

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in Human Resource Department Faculty of Finance & Administration Sciences. He is also working as Deputy Editor Journal in IJSM MEDIU

Mohammad Subhan Basically student of PhD Applied Economics from Aligarh Muslim University India studying in Commerce Department & his research area is Environmental & developmental economics.