ISSN 2710-4761 (Print)
ISSN 2073-0969 (Online)
http://doi.org/10.52587/JEMS040102
Journal of Economics and Management Sciences
Spring 2023, Volume 4, No.1, pp 15-29

MITIGATION OF OBESITY AMBIDEXTERITY, IMPACTS ON HEALTH & CAUSES USING TECHNICAL RESEARCH ECONOMIC ANALYSIS IN THE RURAL DISTRICT OF PAKISTAN

Muhammad Ali[1], Abdoulrahman Aljounaidi[2], Al-Harath Atiek[3]

ABSTRACT

Divert the public attention toward real problems in the form of obesity. To inform the public how obesity is bad for their health & age so they try to minimize obesity levels seriously. Awareness of knowledge that obesity is associated with other diseases is very dangerous. Awareness of how Obesity affects lifestyle and health. How Obesity effect work performance (WP) & work efficiency & obesity impacts income. Quantitative research method is implemented via survey strategy. The technical research approach using a self-made questionnaire & live conversations with participants was implemented. 250 respondents were targeted in a district of Pakistan & its related rural area, 200 responded including 175 males & 25 females respectively. According to the final results from a health perspective most affected group was 55+ years old people & less affected were 15-25 years old which means health complications are increased with age in Pakistan, On the other, if we have a glimpse into the causes of the obesity, most affected groups its habits 15-25 and 26-35 peoples habits are not upto mark standard high consumption of junk food, bad dietary habits, bad sleeping habits, in exercise is god, but the group age by 55+ years habits are good but they are very keen to watch TV shows & new media & less exercise. And if we compare economically the 55+ years people are richer & the first group 15-25 years have low income because most of the people are a student or either depends on their parents. So the economically wealthier people are more obese in general research & survey perception.

Key Words: *Obesity, Health Impacts, Economic Analysis, Causes of Obesity*
JEL Classification: *H50, I11, I15,*

---

[1] Senior Lecturer, Department of Economics, Al-Madinah International University MEDIU, Kuala Lumpur – Malaysia alimuhammad1447@gmai.com
[2]Associate Professor (HOD), Department of Business Management, Al-Madinah International University MEDIU, Kuala Lumpur–Malaysia abdulrahman.ramez@mediu.edu.my
[3]Assistant Professor, Department of Business Management, Al-Madinah International University, Kuala Lumpur- Malaysia alharath.ateik@mediu.edu.my

BACKGROUND OF THE STUDY

In Pakistan out of 6.5/10, It is a fact from the last few years now obesity is a big challenge for every country developing and developed country (Global Obesity Observatory). For Lower Middle-Income Countries (LMICs), it is rapidly increasing because of diet switching from natural organic food to inorganic artificial ready-made food like junk food(fast food), bakery food, etc. In Pakistan, most young people and especially students of Colleges, Schools, and Universities prefer to eat junk food due to lack of time. Mostly, youngsters don't know about time management, and their institution also does not teach them time management. Thus, this is also an issue that needs to be address. However, the focus of our research is on Obesity as the main topic. We are conducting research in a district of Pakistan to analyze obesity causes problems of health and its economic impacts on people's daily life. Normally it is considered that white sugar or refined sugar, sweetened food, and beverages increase obesity, which increases body mass index (BMI) and de-shapes the whole body (Ali et al., 2022). Too much sleep also leads to obesity. In Pakistan, mostly, obesity prevalence is among children, youth, and adults, and a minor part of the old-age people group. In Pakistan after 60 years old, people do not do any work, especially government servants who retire at the age of 60. After that, they do not prefer to work. Most of the time, they spend at home, and because of laziness, their lifestyle totally changed. Therefore they become fat and lazy.

Now at this time, obesity is a serious cause of health complications and it is a leading public health issue in the entire world. In the last 2 decades prevalence of obesity in children, it is growing in adults and students significantly (Ali et al., 2022) Obesity and overweight prevalence are directly interlinked with junk and inorganic ready-made food, it contains high saturation and is rich in calories diet which has no vitamins, minerals, amino acids, or other fiber (Alsuliman MA et al. 2022).

So fast foods have poor nutrition and it is not a healthy diet. That's why it is considered junk food which is empty from nutrition. Consuming fast food on a daily basis leads to obesity and many other problems for health. As was discussed above, obesity is an issue and challenge for both developed and developing countries. In developing countries like Pakistan, it has more serious consequences comparatively developed countries because in Pakistan there is no proper health infrastructure. In Pakistan, it is still increasing and not static. It is causing physical and psychosocial disorders in society. Due to insufficient knowledge and lack of counseling, there is very little research literature found on this topic at the national or local level in Pakistan. Obesity can be controlled in Pakistan if the government can take some reasonable measures and establish counseling centers, or it can be decreased if people stop eating junk food. It can also be controlled in coming years, otherwise, on the flip side, if we do not take proper measures it will increase, and in coming years it will be impossible to stop this disease. Obesity is also the cause of other diseases. These diseases include, hypertension, depression, blood vessels, endocrinology, kidney, and fertility disease, etc. The research problem is to investigate the mitigation of obesity ambidexterity, impacts on health, and causes using technical research and economic analysis in a specific district of Pakistan. The primary objective is to divert public attention towards the real problem of obesity and inform them about the adverse effects it can have on their health and well-being. The study aims to create awareness of the fact that obesity is associated with other diseases, and that it can be very dangerous. In addition, the

research aims to explore how obesity affects lifestyle and health, work performance, work efficiency, and income. By conducting technical research and economic analysis in rural districts of Pakistan, the study intends to identify the causes of obesity in the district and propose measures for its mitigation. The findings of the research can be used to inform public health policies and design intervention strategies for the prevention and treatment of obesity.

1. LITERATURE REVIEW

Obesity is a condition of excessive fat accumulation to the extent that health may be impaired (Cummings et al., 1997). Obesity is an energy imbalance. Overweight people intake more energy than what they consume (Comfort and Abrahamson, 2010). In the conditions of the Covid-19 pandemic, obesity is increasing day by day. 18.8% of female teachers in Pakistan suffer from obesity, while this figure is 53.9% for male teachers (Saber and Akhter, 2020). Their fast-food diet and lifestyle have been identified as contributing factors to their obesity (Saber and Akhter, 2020). Obesity among senior medical and dental faculty members is also relatively high at 36.6%. Factors identified for the risk of obesity are a sedentary lifestyle, high consumption of fast food, and age (Javad et al., 2013).

A quarter of Pakistan's population is classified as overweight or obese. Other factors that are effective in the occurrence of obesity are older age, being a woman, living in an urban area, being literate, having a high economic status, and high consumption of meat. Urgent efforts at the national level are needed to control this problem in Pakistan (Jafar et al., 2006). Obesity is notorious for causing physical and mental disorders. Although obesity is influenced by many factors including fast food, menopause, socio-economic status, and genetics, however, gender is also a factor that affects obesity. In general, according to research, the prevalence of obesity is higher among women than men (Khan et al., 2021). Studies have shown a high prevalence of obesity in the general population (Khan et al., 2021). Obesity exists not only in developed countries but also in developing countries like Pakistan. However, obesity is very dangerous in developing countries because developing countries do not have the proper tools to diagnose obesity (Ellulu et al., 2014; Aslam et al., 2010).

Obesity and related disorders are a growing epidemic worldwide. Many genetic, physiological, psychological (Rezapour-Nasrabad, 2019), environmental and behavioral factors are involved in obesity. The studies show 32% of students are normal weight 10% are obese. Obesity students are all at risk of many serious illnesses. Students' diet habits and lifestyles were not healthy. Junk food, the consumption of cola, and the lack of physical mobility were high among them. Diet and exercise counseling as a preventive strategy is needed for this group (Rauf et al., 2020; Rehman et al., 2019).

Sugar has been identified as one of the factors contributing to various diseases of obesity and diabetes. Obesity today is one of the major health problems around the world. Millions of people die around the world because of obesity. According to a public poll, 450 million people were killed due to obesity, and this is a huge burden on human health. Obesity is also increasing today due to eating junk or fast food. Now, people are also suffering from depression due to obesity, always thinking about how they can get rid of this deadly

epidemic (Ali et al., 2022). There is now a global interest in many disciplines, including medicines, nutrition, and other health problems (Azizzadeh and Puranjar, 2021).

In Pakistan, there are insignificant studies addressing obesity association with chronic health disease & its impacts causes & economic losses at the same time, previously many studies address the overweight & underweight survey in males & females with different perspectives but an in-depth study of Obesity causes, & its impact on health as well as economic problems because of obesity it never discussed before. It is important to address this issue because in Pakistan Obesity is a major challenge for the public on how to minimize the weight. On the other hand, obese people in Pakistan are very lazy & their work performance is not up to the mark standard so it was very important to address these three factors associated with obesity.

2. DATA AND METHODOLOGY

3.1. Research Design

This research was conducted in a district of Pakistan & its related rural areas, Most of the respondents in this research belong to rural areas, in the research, we did live face-to-face interviews using a self-made questionnaire, the present research is descriptive quantitative research using statistical analysis SPSS software.

3.2. Research Sample and Sampling for Analysis

The sample size of the study was set at 250 respondents for the questionnaire, taking into consideration the practicality and feasibility of the available resources for the research. From the included sample size of 250 only 200 people participated in the survey, 175 males & 25 females were included in the number of 200 people we select the sample according to the population of the district's rural area. During the selection of the sample, we divided the people into 5 age groups 15-25 first group & last 55+ years people group. In the selection of sample males and females both are related with a different profession in initial 2 groups mostly were students from School to University level & in middle groups majority of participants were an employee or do their own business in last 2 groups people belong to a government department, early retired people, or people that related to agriculture work. In the present research, all respondents are obese, including gender segregation & age group. In this research study we did not choose underweight respondents from any group or gender. Our main target was only obese & overweight respondents. In order to analyze the impact of obesity on different income groups in the district of Pakistan, we have chosen specific parameters to categorize them based on their income. The first group is the poor or destitute population, whose income is lower than 15,000 PKR or 70 USD. The second group is the low-income population, whose income is lower than 30,000 PKR or 130 USD. The third group is the middle-income population, whose income is equal to 45,000 PKR or 200 USD. And finally, the fourth group is the high-income population, whose income is equal to 60,000 PKR or more than 60,000 PKR, which is equivalent to 270 USD. By dividing the population into these income groups, we can better understand how obesity affects each group differently and the impact it has on their health and overall well-being.

3.3. Inclusion & Exclusion Criteria

In our present research, our target participant was only rural area citizens who were attached to different social activities students employee, self-employed, agriculture &

other business-related people, first of all, the plan of the study was to target only men because in Pakistan traditional culture doesn’ t allow women to interact directly but few females also participated most of the female are students & domestic ladies very few were employees. We include all those people that are obese according to BMI ≥ 30-body mass index, we include all those people who are educated & non-educated, only exclude people with disability because that was difficult to interact with them to gather their information.

3.4. Survey Design

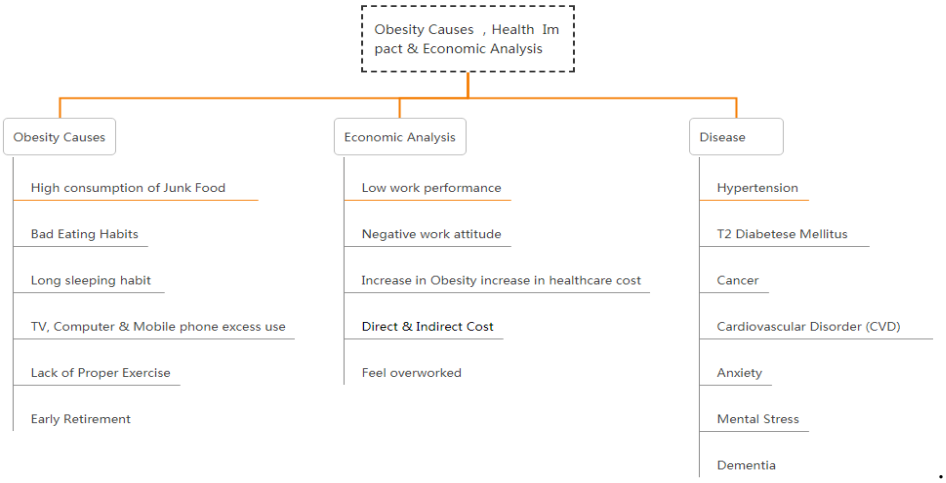
For the present research study, we use a self-made questionnaire together with the basic information of respondents' age profession disease & obesity level & problems they are facing because of obesity, and for how long they have been facing these problems and what the causes of their obesity are, as every respondent has their own problems and challenges. Therefore, we need to summarize the details of each respondent individually. In the questionnaire, we used different questions on the basis of their answer we concluded the result of the individual participants and divided our research team for different specific rural areas & gather information on the basis of our standard research criteria. Although our target was 250 respondents we exclude non-obese people from the research criteria.

3.5. Data Analysis

Obesity impacts on health, its causes & economic challenges we calculated using frequency level & percentage, Obesity impacts & all other three factors were calculated on the basis of a population census conducted in 2017 in Pakistan (PBS Pakistan Bureau of Statistics, 2017) that rural area. Fig 1 is showing the connection between Obesity with three factors. Fig 1 is illustrating the impacts of obesity with three-factor links. In our current research, we apply multivariate regression analysis for the investigation of Obesity's impact on health, and for causes calculation, we used general percentile variate & for economic analysis, we perform separate PLIA Population low-income analysis & PHIA Population high-income analysis for the generalization of result accuracy. On the basis of these statistical analyses, we conclude our results & discussion remarks on obesity & suggest the policy implications. We use 95% CI and a P-Value <0.05 for statistical analysis of the data.

Research Model for Obesity Causes, Disease Association & Economic Analysis

Figure 1: Research model showing the linkages of 3 factors Causes, Economic analysis & disease with Obesity and further results



Source: Author Research

3. FINDINGS OF THE STUDY

4.1. Healthcare problems

The problems of healthcare in all obese respondents with Age and gender group with BMI ≥30, using the formula

BMI = Weight(kg)/Height(m2), Table 1 (in annexure) is showing the statistical results of respondents in terms of Gender and Age group the ratio of disease prevalence in age group +55 is very high & the prevalence rate is almost 9.5%, very high ratio of disease prevalence & alarming situation for this age group almost major portion of the population suffering from different disease & health problems in the form of depression, anxiety & many more. On the basis of age and group, it is revealed that the most affected group in the survey result was 55+ years old & the less-affected group is 15-25 years old including both gender males & females, and it is also revealed that the ratio of disease in different group age is different the less infected in group 15-25 years old and 55+ years old people have many disease Lung, Stomach, Depression-Anxiety, Liver, Abdominal Cancer, etc. This survey indicates that the disease increases with age and obesity also triggers the disease in different forms.

4.2. Obesity Problems & causes

Table 2 (in annexure) is showing the major causes of Obesity in Pakistan & its related factors and ratio is different in different age group. It is clearly indicated from the above Table 2 result scenario that the major cause is obesity prevalence in Pakistan is high consumption of junk food in groups 1 & 2, 15-35 years old respectively where as on the other hand very low consumption was found in the 55+ age group a very nominal people eat junk food but on the other hand, the exercise ratio in 55+ years age is less then 15-25 years group, if we compare bad sleeping & dietary habits the worst group is 15-25 years age where as the best group is 55+ years old group, using of modern technology TV/Mobile Phone & Computer the usage ratio found in first 2 groups almost overall 99%

use these all modern types of equipment on the other hand this ratio is comparatively low in 55+ years age people, but the main cause of obesity in old age people are early retirement & watching TV & live free without work that is the main cause in old age people, where as in young age group the obesity causes are bad eating & sleeping habits watching movie until late night, etc & high consumption of junk food. So the best group, in this case, is 55+ years of age & the worst group is 15-25 years of age but in terms of exercise, this group is good. Because in Pakistan 15-25 years old people are not amateurs and lack proper guidance track to them on the wrong way but in old age people are serious & amateur so they always try to avoid bad habits. That's why the last group is the best in the sense of obesity causes.

4.3. Technical Research Economic Analysis

In the economic analysis, we include both gender males & females & all groups with different ages, we calculate their income using our specifically designed formula. In Table 3 (in annexure) the incomes of the 4 types of people is mentioned with age & gender groups LIP Low income population, PDP Poor, or destitute population, MIP Middle income population & HIP High income population. Research economic analysis helps us a lot for economic evaluation with respect to obesity among respondents.

From the comparative economic analysis of different groups & gender, we use our specific formula for the final mathematical & statistical evaluation. After the final calculation, it was revealed from the results that in Pakistan most of the population belongs to the Middle class in rural areas & the second number is poor class high income & destitute, or poor income people are less. So from the above respondent's results, it is also clear that obesity is directly or indirectly related to the income of the population because the richest section of society is more obese & lazy on the other hand the poor people are less obese & active, it also indicates the effect of obesity link with income but not completely because of few populations have a genetic factor or excess metabolic problems, because of a metabolic problem they are suffering from acute obesity. In the results, the highest income group is the last 2 groups & the first 2 groups are average but in group 3rd the value of income is less than all other groups but in groups 5 the public is more easier and have a better income than other groups. So the last 2 groups have more disease & problems. Although they are not lazy because of age factor they are not very active compared to other groups. And the last group is also richer economically than other groups, so it also indicates that income also links up with obesity in Pakistan.

4.4. Comparative Income Analysis of Sample Population

In our present research, we have to calculate the population income analysis on the basis of that we can check obesity & the influence of income on obesity. It is a universal fact more obesity brings more diseases & problems which need more healthcare costs. It was important to know the income of the respondents who are more obese because genetic factors also exist in obesity in Pakistan as well. So for the calculation of income, we divided respondents into 2 groups first with a Low-income population group 2 Poor, or destitute population group-third a Middle-income population & last group, or 4th with a high-income population. We divide the group category according to different incomes on a monthly basis in Pakistan normally (Ali et al., 2022). We choose specific parameters to divide these groups according to their income. Poor or destitute Population: Income lower them 15,000 PKR Pak Rupees 70$ USD Low-income Population: Income Lower than

30,000 PKR Pak Rupees 130$ USD Middle-Income Population: Income equal to 45,000 PKR Pak Rupees 200$ USD High-Income Population: Income equal to 60,000 PKR Pak Rupees or More than 60 Thousand, 270& USD For the purpose of total comparative income analysis, we make 2 groups Low-income Population and Poor or destitute Population & 2nd group Middle-income population and High-income population, We combine 2 groups together & calculate the final ratio of income in that district's rural area, We calculate the Poor, Low, Middle & high income on the basis of monthly turnover & if the poor people group earns less than 15 Thousand PKR we consider poor but if income exceeds to 16000 we consider low income same like for group 2 Low-income population if they earn less than 30 Thousand Pkr we consider Low income but if their income is more than 30 or 31 Thousand we consider Middle-income same parameters used for group third of the people with average earning 45 Thousand PKR Consider Middle-income population & last group High-income population if they are earning 60 Thousand or more 60 Thousand we consider the high-income population according to district rural area. Normally in Pakistan, in private & government sectors, Pay Scale is around these figures & normal businessmen in general stores or shopkeepers' average earnings are near these figures, so we calculate the entire population's income according to the average monthly turnover based on annual income.

4.5. Population Low Income Analysis

As we described above mention we combine the first 2 groups Poor or destitute population & Low-income population & divided the total number of respondents. Use a formula to calculate the percentage of Low-income population analysis including group age and gender.

PLIA Population Less Income Analysis PLIA

$$\boldsymbol{plia} = \frac{\boldsymbol{Low\ Income\ Population\ +\ Poor\ \&\ Destitutes\ Poulation}}{\boldsymbol{Total\ Number\ of\ Group\ Respondents}}$$

$$\boldsymbol{plia} = \frac{\boldsymbol{LIP\ +\ PDP}}{\boldsymbol{TNGR}}$$

Where TNGR = n

so the formual equation become

$$\boldsymbol{plia} = \frac{\boldsymbol{LIP + PDP}}{\boldsymbol{n}}$$

4.6. Population High Income Analysis

In the high-income analysis, we combine groups 3 and 4, divide the total number of respondents in every group, and obtained the final percentage. We use the same formula for the calculation of high-income analysis.

$$\boldsymbol{phia} = \frac{\boldsymbol{Middle\ income\ Popultion\ +\ High\ income\ poulation}}{\boldsymbol{Total\ number\ of\ group\ respondents}}$$

$$\boldsymbol{phia} = \frac{\boldsymbol{MIP + HIP}}{\boldsymbol{TNGR}}$$

Where TNGR = n

so the formual equation become

$$\boldsymbol{phia} = \frac{\boldsymbol{MIP + HIP}}{\boldsymbol{n}}$$

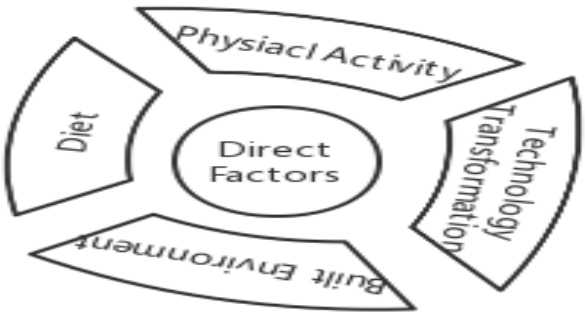
4.7. Direct & Indirect Factor on obesity

Although the obesity factors are not our part of the research, but it is important to address these factors because in Pakistan obesity has increased because of some direct & indirect factors, so we need to analyze these factors briefly.

a. Direct Factors

In Fig 2 direct factors are mentioned that directly increase obesity & consider the direct cause of obesity. People especially old aged 55+ get more obese because of early retirement or compulsory retirement after 60 years of age most of the day time they are free nothing to do hard work but also a number of direct factors cause obesity in all age groups & both genders like diet, physical activity built environment & technology transformation, these factors are directly linked up with obesity for example previously people bring water from well & it was very hard work job but now because technology & use of advance equipment no need to go outside, another example is a Microwave oven in most of the houses the people have an oven but a few years ago people used fire stove for cooking & heating, these are some factors which directly link with obesity (World Bank).

Figure 2: Direct Factors of Obesity

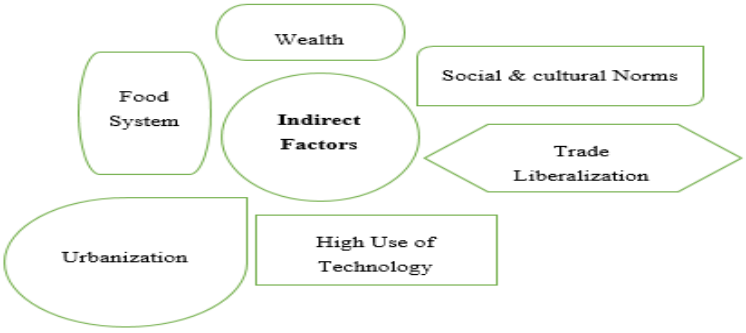


Source Author Research

b. Indirect Factors

There are some indirect internal factors that increasing obesity levels also play a role of the main cause, like Food system, Trade liberalization, Urbanization, Country wealth, Social & Cultural Norms, High use of Technology, etc.

Figure 3: Indirect factors affecting to health increasing obesity also increasing economic problems



Source: Author Research

Figure 3 indicating factors have more or less influence on obesity indirectly it depends on the nature quantity time limit of indirect factors. Food systems replace the traditional cook food with modern junk food taken to the home facilities, Policies changes in traditional marketing strategy to the new use of modern technology, transport & new strategy of urbanization mass transit in the district of Pakistan, different new types of nutrition programs, Use of Mobile phone computer & watch TV shows & news most time-indirect impact on obesity, wealthier people are more obese than normal poor or low-income people, Eating a lot of food during traditional & cultural festival like marriage ceremony & another festival so these all indirect factors also have negative impacts on health & positive impacts on obesity.

4.8. Ambidexterity Mitigation

To control obesity it is important to create awareness in people about obesity health damages and injurious effects on health, It is the duty & responsibility of parents to control their children from junk food SSBs and Sugar-sweetened beverages because high consumption of junk food in the first 2 groups 15-35 years age and teach them about hard work & tell them benefits of hard work, Nowadays in Pakistan Depression, Cancer, Diabetes, Aids & different other disease are outbreaking at a high level in rural & urban areas in all age groups of people from 10 years to 55+ years heart attacks is very common in Pakistan now these all diseases are direct & indirect link with overweight & obesity whether it's genetically & non-genetically (Ali et al., 2022) . The state also should take some measures to the awareness of obesity & encourage the public to exercise & healthy life, health practitioners & policymakers should start work at the mega level to expedite the reduction of obesity in rural & urban areas. The state should also conduct some curricular & extracurricular activities for old age & retired people to overcome anxiety, depression & other health diseases these activities will boost their confidence level and will help them to get rid of chronic & acute diseases whether NCD Non-communicable diseases or CD Communicable disease.

4. CONCLUSION AND POLICY OPTIONS

In conclusion, this research study highlights the increasing prevalence of obesity in Pakistan and the various factors that contribute to it. The study reveals that the young population between 15-35 years old are more prone to obesity due to bad dietary habits,

lack of physical activity, and high consumption of SSBs and junk food. In contrast, the elderly population suffers from health complications due to early retirement and a sedentary lifestyle. The study also found that the families with overseas incomes are richer and more likely to be obese than the poorer families.

Furthermore, the research showed that obesity has direct impacts on health, leading to various diseases such as lung, stomach, depression, anxiety, liver, and abdominal cancer. The prevalence of these diseases is more significant in the elderly population than in the young population. It is crucial to raise awareness about obesity and its effects on health and income to prevent its prevalence in Pakistan.

The study has some limitations, such as the limited scope of research that only focused on specific districts and rural areas. Future research can expand its scope to include more regions and big cities to get a comprehensive picture of obesity in Pakistan.

The implications of this research suggest the need for preventive measures such as counseling on physical health, the provision of healthcare facilities, and dietary supplements. It is essential to encourage physical activity and discourage sedentary lifestyles to prevent obesity in the population. Additionally, policymakers need to design policies to regulate the consumption of SSBs and junk food and promote healthy food options. Overall, this research underscores the urgent need to address the issue of obesity in Pakistan.

References

Ali, M., Ateik, A. A. M., Azizzadeh., F., Aljounaidi., A., Subhan, M. (2022). An Empirical Analysis of White Sugar Relation with Obesity and Diabetes and Its Impacts on Population: Case Study of Small District Pakistan. International Journal of Finance and Management (IJFM), 1(1), http://ojs.mediu.edu.my/index.php/IJSM/about

Alharath Ateik, Abdoulrahman Aljounaidi, Muhammad Ali, Siti Maisara Binti Mohammad Jafre, Fariba Azizzadeh, & Sebastian Zupok. (2023). Prevalence of Obesity consequences its impacts on health & working performance evidence from Saudi Arabia . International Journal of Economic Studies and Management (IJESM), 3(4), 1105–1117. https://doi.org/10.5281/zenodo.8219033

Ali1, M., Atiek, A.H., Zainol, S.B., Azizzadeh, F., Aljounaidi, A., Subhan, M. and Islam, M.S. "Current Political Crisis Impacts on Pakistan's Public Life: An Economic Case Study Regarding the Present Situations in Pakistan." Sarcouncil Journal of Economics and Business Management 1.10 (2022): pp 13-18.

Ali, M. ., Aljounaidi, A. ., Marzo, R. R. ., Ateik, A.-H. ., Fahlevi, M. ., Ridzuan, A. R. ., Aljuaid, M. ., & Waqas, M. . (2023). Investigative Nexus of Depression-Anxiety Disorder in Pakistan Pre and Post-pandemic COVID-19: Coro-Nomic Analysis . Journal of Coastal Life Medicine, 11(1), 1514–1524. Retrieved from https://www.jclmm.com/index.php/journal/article/view/551

Alsuliman MA, Zhang Q, Mishoe S, Durgampudi PK.
The risk factors for self-monitoring of blood glucose among individuals diagnosed with type 2 diabetes in Saudi Arabia. Saudi J Health Sci 2022;11:170-8.

Arabi Belaghi, R., Valizadeh Gamchi, F., and Bevrani, H. (2016, August). Gurunlu Alma, O.: Estimation on Burr type III by progressive censoring using the EM and SEM algorithms. In 13th Iranian Statistical Conference, Shahid Bahonar University of Kerman, Iran (pp. 24-26).

Aslam M, Saeed A, Pasha GR, Altaf S. Gender differences of body mass index in adults of Pakistan: A case study of Multan city. Pakistan Journal of Nutrition. 2010;9(2):162-6.

Ateik, A.-H. ., Ali, M., Danish, M. H. ., Aljounaidi, A. ., & Azizzadeh, F. . (2023). Economic Growth, Trade, and Foreign Direct Investment Interrelationships in South Asian Countries. Journal of Applied Economics and Business Studies, 7(3), 59-74. https://doi.org/10.34260/jaebs.734

Azizzadeh F, Pourranjbar S. (2021). The causes of discharge against medical advice and suggestions for its reduction in Tabriz Sina Medical Center (phenomenological study). Indian J Med Sci, 73(1):88-92. doi:10.25259/IJMS_64_2020

Comfort P. Abrahamson E. Sports rehabilitation and injury prevention. London, willey Blackwell 2010.

Cummings JH et al. New look at dietary carbohydrate: chemistry, physiology and health [Erratum: 2010 Mar., v. 64, no. 3, p. 334] [1997]

Ellulu M, Abed Y, Rahmat A, Ranneh Y, Ali F. Epidemiology of obesity in developing countries: challenges and prevention. Global Epidemic Obesity. 2014 Apr 1;2(1):2. http://doi.org/10.52587/JEMS030203
http://ojs.mediu.edu.my/index.php/IJSM/article/view/4196

https://www.worldbank.org/en/topic/nutrition/publication/obesity-health-and-economic-consequences-of-an-impending-global-challenge

https://data.worldobesity.org/country/pakistan-167/

Jafar, T. H., Chaturvedi, N., and Pappas, G. (2006). Prevalence of overweight and obesity and their association with hypertension and diabetes mellitus in an Indo-Asian population. Research, 175 (9), 1071-1077. DOI:10.1503/cmaj.060464

Javed M.., Chaudhry R., Noor M., Abid J.K. (2013). "Prevalence of Obesity among senior teaching faculty of an undergraduate medical college of Lahore, Pakistan," P J M H S, 7(4), 918-921.

Khan, S., Nauman, H., Saher, S., Imtiaz, H. Amind., Bibi, A., Sajid, H., Khan, T. M., Mumtaz, M.., and Bibi, S. (2021). Gender Difference in Obesity Prevalence Among General Population of Lahore, Pakistan. European Journal of Medical and Health Sciences, 3(3), 55-58. DOI:10.24018/ejmed.2021.3.3.878

Muhammad Ali, Al Harath Atiek and Fariba Azizzadeh. The devestation of COVID-19 & Its economic effects on developing countries: a global analysis, Journal of economics & Management Sciences, Fall 2022, Vol 3, No.2, pp 29-41.

Muhammad Ali, Al Harath Atiek, Abdoulrahman Aljounaidi. (2022). A comprehensive analysis of recent flood disaster & their economic impacts on Pakistan economy & its causes. International Journal of Finance & Management, 1(1), 35-41.

Pakistan Bureau of Stastics https://www.pbs.gov.pk/

Rauf, A., Dawood, R., Chohan, U., and Akhtar, J. (2020). Prevalence of Overweight Among Students of Sargodha Medical College Due to Increased Consumption of Fast Food. Pak-Euro Journal of Medical and life Sciences (PJMLS) 3(1); 19-22.

Rehman, A., Hameed, T., Khan, H. A. (2019). Prevalence of Obesity and Dietary Habits of Students at Rai Medical College Sargodha-Punjab Pakistan. International Journal of Scientific and Research Publications, 9(11), 114-121. http://dx.doi.org/10.29322/IJSRP.9.11.2019.p9513

Rezapour-Nasrabad, R. (2019). Mind map learning technique: An educational interactive approach. International Journal of Pharmaceutical Research, 11(1), 1593-1597.

Sabar J, Akhtar A. Prevalence of obesity among teachers of different universities of Punjab, Pakistan. JRCRS. 2020; 8(1):47-50. DOI: 10.5455/JRCRS.2020080110

Annexure
Table 1

Age group	Obese Non-Obese	Male	Female	Health peroblem in Males(%)	Health Problems in Female(%)	Disease Type	Overall Percentage of Disease prevalence
15-25	Obese Non-Obese	45	5	30%	6%	Hypertension Depression	8.5%
26-35	Obese Non-Obese	47	8	32.72%	9.09%	Depression Stress, Anxiety,Mental Stress	11.5%
36-45	Obese Non-Obese	20	5	40%	20%	Stress T2 Diabetese Mellitus, Anxiety, Depression, Dementia	7%
46-55	Obese Non-Obese	18	2	75%	10%	(CVD) Cardio Vascular Disorder, Liver Problem, T2 Diabetese Mellitus, Abdominal Cancer	8.5%
55+	Obese Non-Obese	15	5	78%	25%	Lung Problem, Chest Problem, Mental Stress, Knee Problem, Abdominal Cancer,Depression,Anxiety, T2 Diabetese Mellitus	9.5%

Table 2

Age group	Male	Female	Consumtion of Junk Food(%)	Dietary Habits(%)	Bad Sleeping habit(%)	Exercise(%)	Use of Mobile Phone/TV/ Computer(%)
15-25	45	5	95	80	96	20	99.99
26-35	47	8	90.90	69.09	90.90	27	95.99
36-45	20	5	60	60	56%	18	94
46-55	18	2	40	50	40%	15	85
55+	15	5	25	25	15%	19	80

Table 3

Age group	Male	Female	Population Less income Analysis(%)	Population High Income Analysis(%)	Low Income Population	Poor or Destitutes Population	Middle Income Population	High Income Population
15-25	45	5	52	48	25	1	20	4
26-35	47	8	45.45	54.55	20	5	25	5
36-45	20	5	64	36	13	3	7	2
46-55	18	2	35	65	6	1	8	5
55+	15	5	10	90	2	0	13	5