COMMENTRY

Fast Food, Nutrition Transition and Obesity in Pakistan: Policy and programs to address this issue

Sajjad Khan[1], Muhammad Salman Haider Qureshi[2]

ABSTRACT

Pakistan is dealing with nutrition transition, obesity and non-communicable diseases along with children stunting, wasting and other problems of undernutrition. Ischemic Heart disease is the leading cause of death in Pakistan. Fast-Food and processed food industry's market share is increasing. They are using various strategies to exploit this large market. This paper starts with a description of the fast food industry and its rise in Pakistan. Furthermore, it suggests several policy and programs to deal with the problem of nutrition transition and obesity. This paper uses the framework of socio ecological model and social determinants of disease to suggest the intervention for the stated problems

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INTRODUCTION

Pakistan has got approximate population of 188.9 million, out of which 21.3 million children are under five years old, while 61.4 million are under fifteen years old.[1] The Gross Domestic Product (GDP) growth was 5.5% with the GDP of $270 Billion in 2015.[1] The life expectancy in Pakistan is just 67 years while the infant mortality rate is 66 per one thousand live births.[1] Under five stunting is at 45% while Low-Birth weight prevalence is 25%. About 37% of infants under 6 months are exclusively breast fed.[2] Ischemic heart disease is the leading cause of death.[3] Nutrition transition is underway in Pakistan. Urban areas are more affected by this transition. Now the country has the double burden of malnutrition. Obesity has got alarming health effects and is an evident risk factor for developing type 2 diabetes mellitus, chronic cardiovascular diseases and various carcinomas.[4]

1. Mel & Enid Zuckerman College of Public Health, The University Of Arizona, U.S.
2. Institute of Public Health & Social Sciences, Khyber Medical University, Pakistan.

Correspondence:
Dr. Muhammad Salman Haider Qureshi
Institute of Public Health and Social Sciences
Khyber Medical University, Peshawar Pakistan
E-mail address: pmc.salmanqureshi@gmail.com

Growth of Fast Food Industry

The first fast food restaurant; Mr. Burger, opened in Karachi in 1980. It opened despite the warnings by many, that Pakistan is not ready for burgers. The owners told Al-Jazeera, that McDonald's and Burger King turned their request for opening a franchise in Karachi, Pakistan in 1978. Due to this reason, they opened a fast food restaurant on their own, which is still running in the city having multiple outlets. By 1995, Mr. Burger were selling more than 100,000 burgers a month.[5]

In 1993, Pizza Hut opened its franchise which was then followed by inauguration of KFC in 1997 and then McDonald's almost year later. According to some estimates, KFC has the biggest sharing hold with 37% of market in the whole country. McDonalds has about 26% share while other ones such as Hardees, Burger King, Subway, and FatBurger have also opened their franchise across various cities in Pakistan. Now Pizza Hut has about 50 outlets
across big cities in Pakistan.[6] KFC has about 60 outlets in 18 big cities including Karachi, Gujranwala, Lahore, Peshawar, Muree and Sukkhar.[7] After opening its first restaurant in 1998 in Lahore, McDonald's has now 44 restaurants in sixteen cities in Pakistan, including all the major cities.[8]

Along with these, there are numerous local fast food outlets whose number is difficult to estimate. They range from small road side shops to large

city-wide chains. Some of the names of these outlets are Gourmet Lasani Burger, Burger Lab, Char Grill Central, Obeez Burger, Burger Inc., Burger Factory, Backstreet Burger, Burger-Z, Burger Company, Burger Shack, Big Thick Burgerz, Burger Hub, Burger Corner, Habanero Express and Burger 18. Foodpanda, an online portal for ordering food, has compiled data about fast foods and their consumption in Pakistani cities. Many of these outlets have the option of home delivery which makes it convenient for customer to get their food at home. According to Foodpanda, burger, pizza and traditional foods were among the popular options with their customers. During an event in Karachi, the third most famous category was burgers after pizza, sandwiches and rolls and it constituted for eighteen percent of six thousand orders placed via website.[9]

There are several reasons for the growth of fast food industry in Pakistan. These include but are not limited to, growing middle class, younger population, increasing urbanization, globalization, changes in food supply chains and trade polices relaxation. A local journalist writing about a newly opened fast food outlet describe it in the following words; "Street Burger has a very different burger joint look. For starters, they have beautiful graffiti wall on the outside with a seating area and it's the perfect backdrop to enjoy a meal or click a few pictures. The space indoors is compact but nicely designed. They have an open kitchen and a very vibrant feel inside which makes the young ones feel right at home.[10] She goes on to describe it as "Street Burger is the place to go, if you want a taste of a true American burger. It's a blend of Five Guys and Shake Shack and in our opinion they're doing a great job!"

As shown by this description these fast food outlets caters to the middle and upper middle classes (mostly educated young people) in the cities. The description in articles in newspaper do not have a critical view about these restaurants. A Pakistani comedian coined the term *Burger Class* to specifically describe these middle and upper middle class people. He described that these people belong to a *"certain class"* and are distinct from *"the common man"*. He further elaborated that "It was a class that preferred to align itself with the West, and behaved as though it did not even know how to eat a common roti (Pakistani bread)." They are mostly educated and young people who want to adopt the 'western diet'.[11]

According to a survey by Institute of costs and management Accountants of Pakistan there is a high growth in the food industry in the country in the recent years. The survey participants were of the view that food companies are charging high profits. About 50% people preferred Pakistani food and 24% people preferred fast foods while dining out. Regarding advertisements, KFC, McDonald's, and Pizza hut are seen by people as the most advertised fast-food brands. According to this survey, Quality, hygiene, Status Symbol and Advertisements are the top four reasons for the increasing popularity of international food chains. McDonalds and KFC are taking the highest care of hygiene.[12] These are some of the dynamics and marketing strategies due to which fast food restaurants are getting popular in the urban areas in Pakistan.

Nutrition Transition

Nutrition transition is underway in Pakistan. The country is now facing the double burden of Malnutrition. Cardiovascular diseases are on the rise and Ischemic Heart diseases are the leading causes of death in the country.[3] The country needs to tackle both the problem of under and over nutrition. Obesity and overweight phenomena are on the rise in the country. Urban areas are more affected as compared to rural areas in the country. The increasing consumption of fast foods, processed foods, animal fats, vegetable oils, sugar sweetened beverages are related to Urbanization and hence Urban areas in Pakistan are more affected from it.

Intervention Strategies

Nutrition Transition, Obesity and non-communicable diseases (NCDs) are complex phenomena and multiple reasons and factors are attributed to its rise in the country. Likewise, the intervention strategies will also involve multiple sectors and stakeholders. The main actors for the intervention strategies will be government, international organizations, civil society, private sector, individuals and health professionals. This will involve different sectors such as health, commerce, trade, economy, urban planning, and environmental ministries.[13]

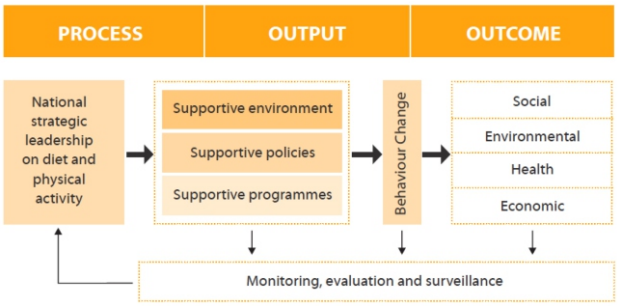

Figure.1: Schematic model demonstrating the framework for implementation of WHO Diet Physical Activity Strategy (DPAS) at member state level.

This model shows that multiple sectors will be involved in tackling the issue of nutrition transition and obesity. This will involve sectors such as health, agriculture, food industry, urban planning and education. The role of government is important and central in implementing these interventions. At first, it is important to assess the problem of Nutrition transition at national level. As mentioned, non-communicable diseases and obesity are increasing but the government has not devised any coherent policy to address this problem. WHO guidelines and programs from other countries can provide insights to properly design and introduce policies for addressing the issue of nutrition transition and obesity. The policies should be adopted to the local context as local culture is an important aspect of these polices.[14]

National Policies on Nutritional Transition

Pakistan need to devise national polices to limit the growth of processed food industry in the country. Along with the growth of this industry, as demonstrated above, there is a growth of fast food industry which is also influencing the food culture of the country. The traditional foods are being replaced to some extent by these fast foods. These aspects of nutrition transition are promoting obesogenic environment in the urban areas of the country. To reverse or prevent the obesogenic drivers, the role of national polices is very important. Figure 2 shows the main aspects of these polices. The systemic and environmental drivers are influenced by these polices. This will include agriculture policies, food marketing, mass media campaigns, urban planning, public transport and subsidies on healthy foods. Policy interventions affect the whole population and will create the environment where people will be able select healthy choices more easily.[15] WHO's strategy on physical activity and diet also emphasizes the role of government. Ministry of National Health Services Regulation and Co-ordination will take the lead and involve the other sectors for devising these polices. This will include the ministries responsible for food and agriculture, sports, education, commerce, urban planning, finance, youth recreation, industry and environment. The polices developed should be consistent with the WHO strategy of promoting and protecting public health.[16] The country should prepare new dietary guidelines and should periodically update it. The government should also support and promote research in this area to train workforce for the future. Similarly, resources should be allocated to establish monitoring and surveillance system to track this problem. Currently, there are very few studies on fast foods, obesity and nutrition transition. These polices will lead to more research to guide polices in future. Limiting or banning the advertisement of unhealthy foods to children and implementing the policy of labelling various foods should be considered at national level.

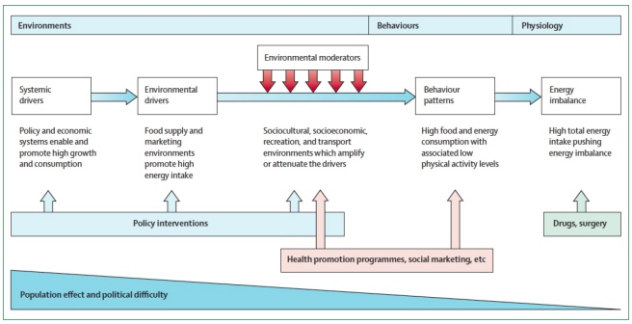

Figure 2: A framework to categorize obesity determinants and solutions. [15] Health Promotion Programs:

Fast foods are comparatively new foods in Pakistan. People do not know about the harmful effects of these foods. Due to these reasons, mass media campaigns about fast foods are very important. People will have more information about these foods. The advertisement of these restaurants needs to be regulated and there should be strict guidelines for the fast restaurants to display the caloric value for their menu contents. School based program about information on fast

foods is another important aspect as young people are consuming these foods more often. As shown in figure 2, these programs are related to sociocultural and socioeconomic aspects. These factors can amplify or attenuate behavioral pattern in terms of obesity prevention. The behavioral patterns of high energy consumption and low physical activity are affected by these programs.[17] These aspects of obesity prevention seem simple and they have received more importance but compared to policy changes and regulations they are less effective. Pakistan's traditional diets have healthy options of fruits, vegetables and grains which should be promoted and highlighted as is done in South Korea.[18] These health promotion and social marketing programs can avail the example of the western countries who have implemented different polices to curtail the market share of fast food companies. The role of private sector, international agencies, civil society and individual and families is also important for the prevention of obesity in the country. Private sector food industry need to follow the guidelines to protect the health of the people. They will need to introduce healthier foods by decreasing the content of sugar, salt and unhealthy fat in the food. Likewise, they will also need to ensure the food labelling, packaging, and information about nutrients. The private companies will need to collaborate with the government in terms of sharing data to better plan for the future. Similarly, international organizations should also co-operate with the government on the relevant trade, economic, agricultural and environmental policies and regulations. Civil society organizations can also play a positive role by building networks and alliances to advocate for change in polices. They can also work to increase awareness about fast foods in urban areas as the urban areas have active civil society organizations.[19]

	Target population	Strength of evidence*	DALYs saved	Gross costs† (A$ million)	Net cost per DALY saved‡ (A$ million)
Unhealthy food and beverage tax (10%)§[77]	Adults	4	559 000	18·00	Cost-saving
Front-of-pack traffic light nutrition labelling§[77]	Adults	5	45 100	81·00	Cost-saving
Reduction of advertising of junk food and beverages to children¶	Children (0–14 years)	2	37 000	0·13	Cost-saving
School-based education programme to reduce television viewing¶	Primary schoolchildren (8–10 years)	3	8600	27·70	Cost-saving
Multi-faceted school-based programme including nutrition and physical activity¶	Primary schoolchildren (6 years)	3	8000	40·00	Cost-saving
School-based education programme to reduce sugar-sweetened drink consumption¶	Primary schoolchildren (7–11 years)	3	5300	3·30	Cost-saving
Family-based targeted programme for obese children¶	Obese children (10–11 years)	1	2700	11·00	Cost-saving
Multi-faceted targeted school-based programme¶	Overweight/obese primary schoolchildren (7–10 years)	3	270	0·56	Cost-saving
Gastric banding—adolescents¶[78]	Severely obese adolescents (14–19 years)	1	12 300	130·00	4400
Family-based GP-mediated programme¶[79]	Overweight/moderately obese children (5–9 years)	3	510	6·30	4700
Gastric banding—adults§	Adults BMI >35 kg/m²	1	140 000	120·00	5800
Multi-faceted school-based programme without an active physical activity component¶	Primary schoolchildren (6 years)	3	1600	51·20	21 300
Diet and exercise§	Adults BMI >25 kg/m²	1	3000	140·00	28 000
Low-fat diet§	Adults BMI>25 kg/m²	1	1900	94·00	37 000
Active After Schools Communities Program¶[80]	Primary schoolchildren (5–11 years)	5	450	40·3	82 000
Weight Watchers§	Adults	1	54	5·00	84 000
Lighten up to a healthy lifestyle weight-loss programme§	Adults	4	38	4·00	94 000
TravelSMART schools¶	Primary schoolchildren (10–11 years)	4	90	13·10	117 000
Orlistat§	Adults BMI >30 kg/m²	1	2100	1500·00	700 000
Walking School Bus¶	Primary schoolchildren (5–7 years)	3	450	40·30	760 000

BMI=body mass index. *This classification (1=strongest; 5=weakest) is based on criteria adopted in ACE-Prevention.[74] 1=sufficient evidence of effectiveness. Effectiveness is shown by sufficient evidence from well-designed research that the effect is unlikely to be due to chance (eg, p<0·05) and is unlikely to be a result of bias (eg, evidence from: a level I study design; several good quality level II studies; or several high quality level III-1 or III-2 studies from which effects of bias and confounding can be reasonably excluded on the basis of the design and analysis). 2=likely to be effective. Effectiveness results are based on sound theoretical rationale and programme logic, and level IV studies, indirect or parallel evidence for outcomes, or epidemiological modelling to the desired outcome using a mix of evidence types or levels. The effect is unlikely to be due to chance. Implementation of this intervention should be accompanied by an appropriate evaluation budget. 3=limited evidence of effectiveness is demonstrated by limited evidence from studies of varying quality (can be level II or II studies). 4=may be effective. Effectiveness is similar to evidence of strength 2 but potentially not significant and bias cannot be excluded as a possible explanation. 5=inconclusive or inadequate evidence (5 or 6 in original studies). †Gross costs=intervention costs. ‡Net cost per DALY saved=Gross costs minus cost offsets divided by number of DALYs saved (costs only for reductions in obesity-related disease and not including unrelated health-care costs). §Interventions drawn from ACE-Prevention study 2010.[74] ¶Interventions drawn from ACE-Obesity study.[73]

Table: **Cost-effectiveness results for selected interventions evaluated in Australia**

Figure: 3 Cost-effectiveness results for selected interventions evaluated in Australia (adopted from Gortmaker et al)[21]

Evidence base for interventions

Researchers are assessing both the efficacy of intervention and cost effectiveness. Figure 3 is adopted from Australian Assessing Cost-Effectiveness (ACE) in obesity and ACE prevention Studies. These studies assessed 11 interventions for children and young people and nine among adults. The interventions power of evidence, outcome on equity, acceptability to the stake-holders, practicability of its implementation, sustainability and affordability were assessed.[20]

The first 8 of 20 interventions were revealed to be not only health improving but also cost effective so they are termed the dominant intervention. The next three were cost-effective. These interventions are assessed in terms of net cost per DALY saved. Strength of evidence is also provided in the table. Integrative modelling strategies were used to assess these interventions. The first 11 interventions are therefore considered very important in terms of obesity prevention and control. The top three interventions are environmental and are money saving. They show unassertive effect on individual level however, are highly cost-effective.[21] An important inference of ACE assessments is that the approached of policy are superior to health promotion or clinical intervention in terms of cost-effectiveness. Regulation of advertising was the least expensive measure among all those that were examined by the organization for Economic Co-operation and Development (OECD). OECD study were in favour of fiscal measures and were said to be *"the only intervention likely to pay for themselves."*

Implications

Pakistan is still dealing with the problem of undernutrition. About 45% of under five children have stunting, while 25% children are born with low birth weight and only 38% are exclusively breast fed.[2] This means that both international agencies and government have to prioritize these issues rather than obesity and nutrition transition.

Addressing obesity and nutrition transition will be a challenging issue as the country do not have enough resources to completely redesign its urban centres. Pakistan's large cities are densely populated and apart from some neighbourhoods, the urban planning is poor and public transportation and other facilities are lacking in the cities. Pakistan also need foreign and local investors in different sectors for economic growth and jobs. Trade policies that are restricting these investments can have negative effect on the economy. Furthermore, international organizations are focused on undernutrition in Pakistan. The school based programs and other advertisement regulations for fast foods will also be resisted by the food industry as has happened in other countries.[22]

Due to these challenges, the country should devise a multi-sectoral collaboration to properly address the issue of nutrition transition and obesity. According to the proposed policies and health promotion programs, pilot interventions could be designed for some cities to see the effect of these policies and then implemented broadly. The concept of healthy cities and healthy communities is also important in this context.[23] These approaches using the social determinants of health or social ecological model to address these issues. Pakistan can learn from these initiatives which are being tried in several countries.

Outcomes of Interest

Nutrition transition and obesity interrelated to each other. The progress for the interventions can be tracked by looking at overweight and obesity rates in the population of interest. Furthermore, the market share for processed foods, sugar sweetened beverages, and fast foods will also be important to track the progress of the interventions. Continuous monitoring and evaluation will be necessary for addressing the issue of nutrition transition and obesity in the country. These should foster both academic and policy research so that the future interventions are more aligned to local context and culture. As obesity causes various serious non-communicable diseases, so in the long-term the incidence of these diseases can also be tracked to assess the success of the prevention programs.

Conclusion

Nutrition transition, obesity and NCDs are related to the broad changes that occurred in the society in the last few decades. Globalization, new-liberalism, trade policies, modern economy, mechanization and several other factors are related to obesity and nutrition transition. These changes are also occurring in Pakistan. Pakistan

need coherent policies and programs to address these issues along with the problem of undernutrition. The country will require the support of international organization and UN to be able to frame policies for tackling this emerging issue of obesity, NCDs and nutrition transition. to the broad changes that occurred in the society in the last few decades. Globalization, new-liberalism, trade policies, modern economy, mechanization and several other factors are related to obesity and nutrition transition. These changes are also occurring in Pakistan. Pakistan need coherent policies and programs to address these issues along with the problem of undernutrition. The country will require the support of international organization and UN to be able to frame policies for tackling this emerging issue of obesity, NCDs and nutrition transition.