Socioeconomic Position and diabetes care: The Health behaviors regarding diabetes care of Type 2 diabetic patients in different socioeconomic position—a case in Tianjin China

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Content:

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Introduction:

There is a large amount of literature shows that there is a relationship between socioeconomic position (SEP) and health. For someone with diabetes, SEP may influence access to and quality of care, social support, and community resources. It may also influence diabetes-related knowledge, communication with providers, ability to adhere to recommended medication, exercise, and dietary regimens, and treatment choices (Arllen F. Brown, Susan L. Ettner, John Piette, 2004).

In this paper, I present how diabetic patients in different socioeconomic groups manage Type 2 diabetes. I did a field survey in Tianjin China in August, 2012 to research the relationship between SEP and diabetes care (health behavior). This field survey was done in a hospital. I research on 286 people and got 181 data. This survey was held by telephone interview by asking patients how do they manage diabetes include dietary, physical activity and blood glucose monitoring. This research will show how Tianjin patients in different SEP to manage diabetes and, it would be helpful for the doctors' further work.

Tianjin is a developing city located in east China with 12 million populations. Nowadays, Type 2 diabetes has become a big problem in City Tianjin. According to Tianjin Net, in 2010, "there was nearly one million people got Type 2 diabetes. In 1984, among 100 people, there was only 0.5 people got Type 2 diabetes but now, among 100 people, there is nearly 10 people got Type 2 diabetes and the number is continue increasing. Besides that, 15% citizens are potential diabetes patients which means without intervention, these people are very likely become diabetes patients" (Tianjin Net; 2010). People who got Type 2 diabetes would maintain their lives by

insulin or oral lowering glucose drugs and balanced diet during the whole life. People who got complications of diabetes such as loss of sight and heart disease would lose partly or totally ability to work. Therefore, nothing would be more important than decreasing the diabetic patients.

Diabetes care (health behavior) is playing important roles in diabetes care. The performance in diabetic care has big affect on the prevalence on complications of Type 2 diabetes such as renal disease, eye disease, stroke and so on. There are a large number of research demonstrated socioeconomic position is one of the social reasons for chronic disease. Many research demonstrated factors such as low income, less education and living in a high poverty area have associated with higher rates of smoking, lower rates of blood glucose monitoring and lower rates of vigorous exercise (Brown, Piette, Weiberger etc. 2003). In my research, I would like to research the how diabetic patients in different socioeconomic position take care of diabetes. This research may beneficial for diabetes control in Tianjin City.

In Tianjin, there is one hospital named Third Central Hospital. It is one of the famous hospitals in treating Type 2 Diabetes in Tianjin. Every day, there are numerous patients come to this hospital. In order to increase the quality of future treatment, I did a field research in this hospital. *The Chinese Diabetes Guide Book (2007)* is a handbook edited by a group of scholars in treating diabetes. This handbook is used for diabetes education material in this hospital. Every patient can take one for free in the entrance of doctors' office. Also, the hospital holds diabetes education seminar regularly, in the seminar, the patients also can get one for free. Therefore, this handbook and doctors' advice should be the major information on their diabetes care and the doctors also exhort patients to follow this handbook. In my research, I would like to know how many percent patients are following this book and the reasons they take care diabetes like this. Through this research, we can know how different SEP patients take care of diabetes. This research would be helpful to understand the following condition of different SEP patients on this handbook. And this research would be benefit for the future treatment.

2. Literature Review:

2-1 Sociology of Health

In this section, I will introduce something on sociology of health.

This paper is on the sociology of health. Sociology of health, briefly speaking, is the social relationship among people's health and its influence. In the past time, health and illness may only be connected with hospitals and doctors. However, today, all of us have at least experience and basic knowledge about health and illness. "Health, it seems, has become a ubiquitous motif in our culture. Information and knowledge about health and illness are thus no longer just the property of health 'experts'" (Bury and Gabe; 2004; 1). Many people may consider sociology of health is simply connected with institutions of medicine, but Bury and Gabe are not totally agreed with the notion. They argued that

> "The sociology of health and illness is not confined to the narrow domain of the formal institutions of medicine. It is concerned with all those aspects of contemporary social life which impinge upon well-being throughout the life-course. (Bury and Gabe; 2004; 2)".

In the field of sociology of health, there are many social aspects involved in. Bury and Gabe gave us a detailed explanation of these aspects.

> "The social locations of our parents will affect our life chances. Our birth may be mediated by technology and controlled by health professionals. The beliefs about health and illness held by our peers and by those with whom we live will shape our own experiences and understandings. Our contact with health professionals (dentists, doctors, pharmacists, opticians, health promoters, practice nurses and so on) is likely to become a routine fact of our lives. Our self- identity may be shaped

by our experiences of illness and our interactions with both formal and informal institutions of health care. Our attitudes towards our bodies will be influenced by the discourses of health promotion and consumer culture. Our experiences of death and dying will be affected by our socio-culture context. We may come into contact with new technologies of health care, either through our own illnesses or through having children. We may have to face the ethical and moral dilemmas central to the blurring of the beginning and ending of life. We may work in organizations (the NHS is one of the biggest employers in Europe) either directly or indirectly associated with health work. We will all carry out health work, which may take the form of caring for elderly relatives, children, partners, friends, and of course ourselves (Bury and Gabe; 2004; 2)."

As we can see, aspects include social location, beliefs about health and illness, contacting with health professionals, self-identity, attitudes toward bodies, experiences of death and dying, new technologies, ethnics, health organizations and neighborhood are affecting our notions toward health and illness.

In this field, there are four approaches to research health in sociology now. They are "Political Economy and Marxist Approaches", "Parsonian Sociology of Health", "Foucault's Sociology of Health" and "Feminist Approaches". White (2002) made a short explanation on these approaches.

"Marxist approaches emphasize the causal role of economics in the production and distribution of disease, as well as the role that medical knowledge plays in sustaining the class structure. Parsonian sociology emphasizes the role of medicine in maintaining social harmony, pointing to the non-market basis of professional groups. At the same time its critical sociological edge is maintained by the way it highlights the social control function of medicine in enforcing compliance with social roles in modern society. Foucault, too, highlights the social role of medical knowledge in controlling populations. For Foucault, modern societies are systems of organized surveillance with the catch being that individuals conduct the

surveillance on themselves, having internalized 'professional' models of what is appropriate behavior. Marxist-feminists identify the ways in which class and patriarchy interact to define the subordinate position of women in society, and the central role that medical knowledge plays in defining women as childcarers and housewives. (White; 2002; 6)"

According to White, "Materialist, or structuralist (the terms can be used interchangeably) explanations of disease emphasize those social, political and economic factors beyond the control of individuals and which adversely affect their health (White; 2002; 79)". As we can see, for Materialist of Health Studies, the basis of research is social factors, not biology factor. What they focus, is the affects of social, political and economic factors to health. A view of materialist evidence for the causes of disease, that is an account based on social organization rather than the individual or biology (White; 2002; 79)"

2-2 The health condition in current China

The People's Republic of China was established in 1949. However, the economy of China was not developed until 1979. In 1978, the Vice Premier Deng Xiaoping brought forward the "Reforming and Opening-up Policy". Chinese economy was developed since 1979.[1] In 1978, the GDP of China was 364.5 billion Yuan (about 56 billion Dollar) which ranked in 10 among the main countries of the world. But the GNP of China was only 190 Dollars, which means China was one of the most undeveloped, low income countries (Gov, cn: The Chinese Central Government's Official Web Portal; Oct, 27th , 2008). However, in 2007, the GDP of China was archived 2495 billion Yuan (about 384.23 billion Dollar) and GNP was archived 18934 Yuan (about 2915.84 Dollar).

As WHO showed, "China's fast changing country context is now characterized by rapid industrialization, massive internal migration and urbanization, increasing environmental health threats, rising disparities and an aging population

[1] Since 1979, China has pursued a policy of reform and opening to the outside world, a policy which was initiated by Deng Xiaoping. Major efforts have been made to readjust the economic structure, and reform the economic and political systems. (China Daily; May, 10th , 2011)

(WHO-CHINA Country Cooperation Strategy, 2008).” The homepage of WHO has showed health condition of current China. As Chinese economy developed, the health condition has been changing as well. But problems also exist. First is health service. “Access to affordable health services remains difficult, health services are not of consistent, adequate quality, and essential medicines are not always available or affordable (WHO-CHINA Country Cooperation Strategy, 2008).” These conditions are affected by many factors such as health system governance and public health financing. Second is mortality. The mortality of Chinese has already decreased from 1990. As WHO showed, “While the maternal mortality ratio and under-five mortality rate have dropped significantly since 1990, the absolute number of maternal and child deaths due to China’s large population makes maternal and child health a continuing priority (WHO-CHINA Country Cooperation Strategy, 2008).” Third is the environmental problem. “In 2004, an estimated 44% of the total population had access to improved sanitation and 77% of the population had access to safe drinking water. Air quality, especially in cities, had declined with the recent surge in vehicles emissions and other pollutants, making environmental health issues a growing concern (WHO-CHINA Country Cooperation Strategy, 2008).” As we can see, the health condition of China has already improved but health service, environment such necessary factors should also be processed.

As the economy developed, the ability of people’s consumption became higher and higher which means people have more money to eat better and more delicious. However, not only does this consumption bring benefits but also brings demerits. As the economy developed, people also have ability to purchase something bad for their health such as high calorie food. As we all know, high calorie food include chocolate, cheese, hamburger, photo chips, fried food and so on. According to People’s Net (2008), “33 years ago, in 1978, the average salary was only 7.3 dollars monthly and a bar of chocolate almost cost 1/5 salary. In 2007, the average salary had already archived 296.7 dollars monthly. And high calorie foods are not luxury goods any more (Oct, 2008)”. To eat too much high calorie food could caused Type 2 diabetes (Chinese Diabetes Society, 2007). Diabetes is separated as Type 1 Diabetes and Type

2 Diabetes, the homepage of WHO provided detailed introduction.

> "Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. Hyperglycaemia, or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels (WHO 2011)."

> "Type 1 diabetes (previously known as insulin-dependent, juvenile or childhood-onset) is characterized by deficient insulin production and requires daily administration of insulin. The cause of type 1 diabetes is not known and it is not preventable with current knowledge (WHO 2011)."

> "Type 2 diabetes (formerly called non-insulin-dependent or adult-onset) results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world, and is largely the result of excess body weight and physical inactivity (WHO 2011)."

As we can see clearly from the detailed introduction, Type 1 diabetes and Type 2 diabetes are different. Type 1 diabetes cannot be prevented by current knowledge while Type 2 diabetes can be prevented by lose weight and increase physical inactivity. Also, Type 2 diabetes takes 90% of people with diabetes around the world. Therefore, I would like to focus on Type 2 diabetes.

Since diabetes can be caused by taking a large number of high calorie food, some common people called Type 2 diabetes as "Disease of Richness".

However, scholars don't think so. They argued that Diabetes is not "Disease of Richness" but "Disease of Illiteracy" (Chinese Diabetes Society, 2007). According to China Guideline for Diabetes Care and Education, "some people think Type 2 Diabetes is caused by taking sugar and calorific capacity beyond the limits, so they

call this it ‘Disease of Richness’. But some people think Type 2 Diabetes is caused by lack of nutrition, so they called this it ‘Disease of poverty’. However, Type 2 Diabetes neither ‘Disease of Richness’ nor ‘Disease of poverty’, it is ‘Disease of Illiteracy’ which means it is caused by people’s ignorance. Because there are some strong evidence showed the patients of Type 2 Diabetes had already decreased in America and Europe such highly developed area (2007).”

As the economy developed, those people in highly developed area are not only pay attention to warm and full, but also pay attention to their health which means they have high conciseness of how to do is healthy. Different from America and Europe, Tianjin is a developing city. The people in Tianjin could take enough food just from recent 30 years. Also, Tianjin cannot be called as a “highly developed” city even now. Most of people still remain on the “warm and full” stage and rarely care how to do would be healthy. Therefore, Tianjin has value to research diabetes care.

Methodology:

In this section, I will explain how did I research these problems and show the results.

1. Field Survey:

In July and August in 2012, I did a field survey in Hospital A in Tianjin to research socioeconomic situation and diabetes care of diabetic patients. This hospital is a Three Level of first-class hospital which takes 2.66 million metre square. In hospital, there are 1080 beds and 1380 employees.

This is a cross-sectional study. In this study, I want to know 1. What is the socioeconomic status of them? 2. Do they take care of diabetes according to Chinese Diabetes Guide Book? 3. Why do they take care of Diabetes like this? The subjects are the diabetic patients of this hospital. Before I do the research, I got a list from the hospital which recorded some basic information of 286 patients. These patients are from 37-68 years old. All of them in a stable condition and do not have diabetes complication. In July and August in 2012, I interviewed these patients by telephone

one by one and finally got 181 (75 males and 106 females) data from the interview. The interview questions are as following:

1. What is your final education degree?
2. What is your occupation?
3. What is your income?
4. What kinds of sports do you usually do and how long do you do every day?
5. How much rice/wheat, milk, fat (meat, oil and fried food), salt, and alcohol do you eat every day?
6. How often do you monitor your blood sugar?

These questions include socioeconomic status, dietary, sports and blood monitoring. On the telephone, I told them I am a student of your doctor, now we want to know how you take care of your diabetes after come to the hospital, and it would be helpful for us to direct treatment. Most of the patients are cooperated. But there are some difficulties during the interview. For example, it is bad for asking them “how much money do you earn every month”, so, by asking them “does your money enough to buy medicine every month” would be better. In this case, they will answer “yes, 3000 Yuan is enough for me” or “no, I have only 1500 Yuan every month, the little money cannot buy anything”. Such method can know their monthly income. Also, some patients do not want tell education or income to a suddenly call. In this case, by asking some professional questions could ease up the atmosphere. For example, what is your blood glouse when you monitor last time. Most of the patients are likely to talk blood glouse monitoring result so by asking this question could break ice up easily. But there are still some weak points exist. For example, because I cannot see their faces so I cannot tell the accuracy of the data by their expression. To decrease the bias, I paid attention to their emotion. If one person provide little information and speak fast, I would doubt the accuracy his/her words. In that case, I tried by reinterpreting my identity to eliminate their suspicion. If the object was too suspected to answer questions, I will give up his/her data.

2. Result:

In this section, I will explain the result of field survey. After I collect the data, I divided them into 3 socioeconomic groups and used excel to count how many people in each group. According to the "Blue Book of Society (2003)", socioeconomic status should be classified according to the education, family average income and occupation. Every variable have scores to evaluate. Researchers should add these numbers together and get the people's socioeconomic status.

Classification criterion	Evaluation
Education	Master 7 Bachelor 6 Associate Degree 5 High school 4 Junior School 3 Elementary School 2 Cannot read or write 1
Family Average Income (Yuan)	More than 4000 7 3001-4000 6 2001-3000 5 1001-2000 4 601-1000 3 201-6000 2 Less than 200 1
Occupation	Senior manager/technical staff 7 Middle manager/technical staff 6 General manager/technical staff 5 General officer 4 Skilled worker 3 Manual Labor 2 Temporary worker/have no job 1

A：Highest 21
B：High 18-20
C：Upper level 15-17
D：Middle 12-14
E：Lower level 9-13
F：Low 6-8
G：Lowest 3-5

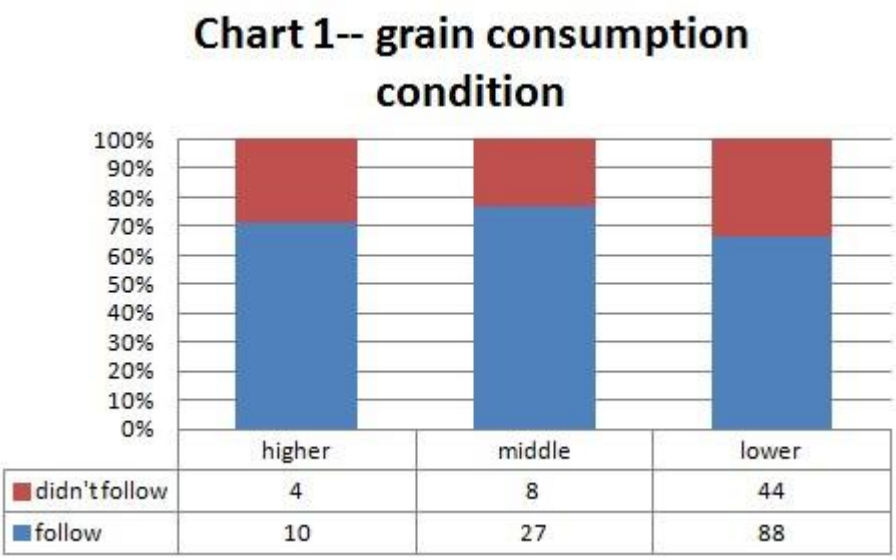
(The Blue Book of society 2003)

As you can see, The Blue Book of Society divided socioeconomic into 7 groups. But because of the limitation of my research, I cannot get so many patients to divided into 7 groups. So, in my research, I divided them into 3 groups (upper group, middle group and lower group) which the scores are 15-17, 12-14, 6-13. According to my statistics, the numbers in each group are as follow:

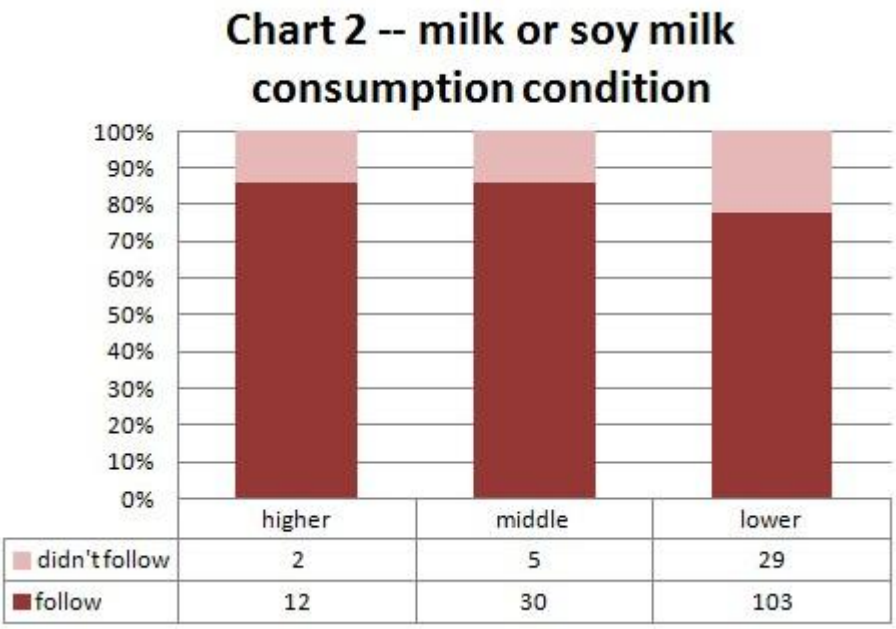
Upper	Middle	Lower
14 (7 males and 7 females)	35 (14 males and 21 females)	132 (68 males and 64 females)

As the chart shows, most of the patients are in lower socioeconomic group. In my recording, the highest education background of them is college and the number is only 11 which means among 16.5 patients, only 1 is college graduate. The income of the patients is also low. More than 80% of the patients earn less than 4500 Yuan every month. According to Tianjin Net, the average monthly income in Tianjin is 4500 Yuan (2010). Therefore, most of the patients haven't reached the average level.

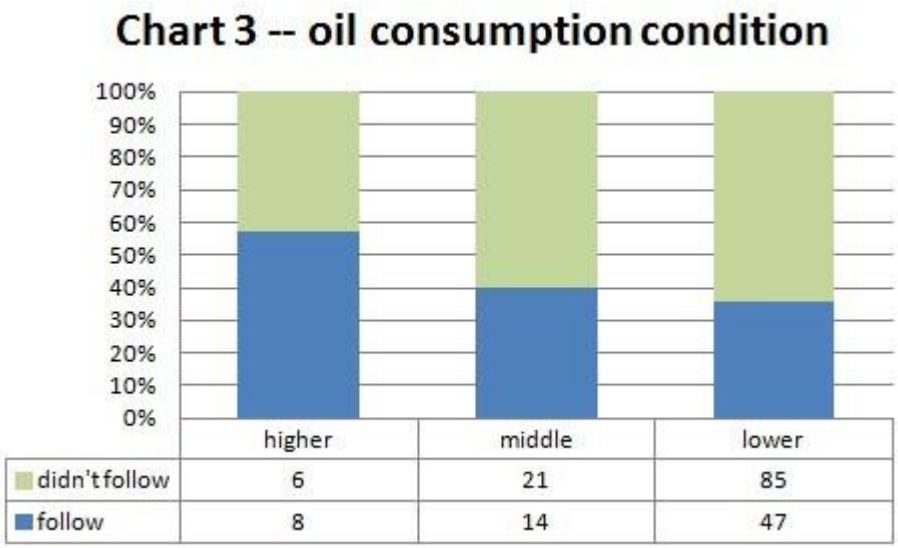
Then I asked patients dietary on the interview. The questions include rice/wheat, vegetable, eggs, milk, fat (meat, oil and fried food) and salt consumption volume. Based on Chinese Diabetes Guide Book (2007), "Diabetic patients should be very careful on dietary. Generally, diabetic patients should take 200g-350g grain, 250ml milk or soy milk, 2-3 spoon oil, less than 200g meat, less than 6g salt and not more than 10g alcohol every day", I got the dietary condition of them. The result is as the chart showed.



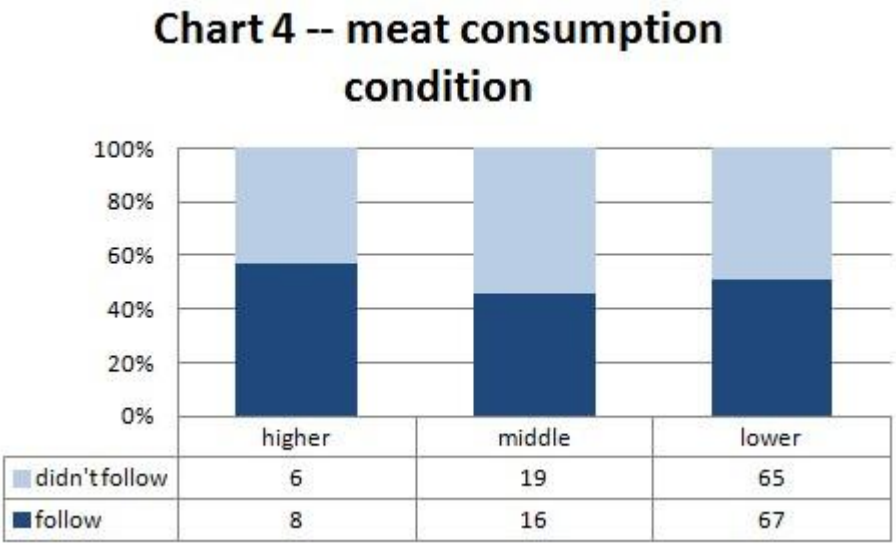
As we can see from the chart, in higher group and middle group, more than 70% of the patients could follow the guide book but in lower group, only more than 50% people followed the guide book.



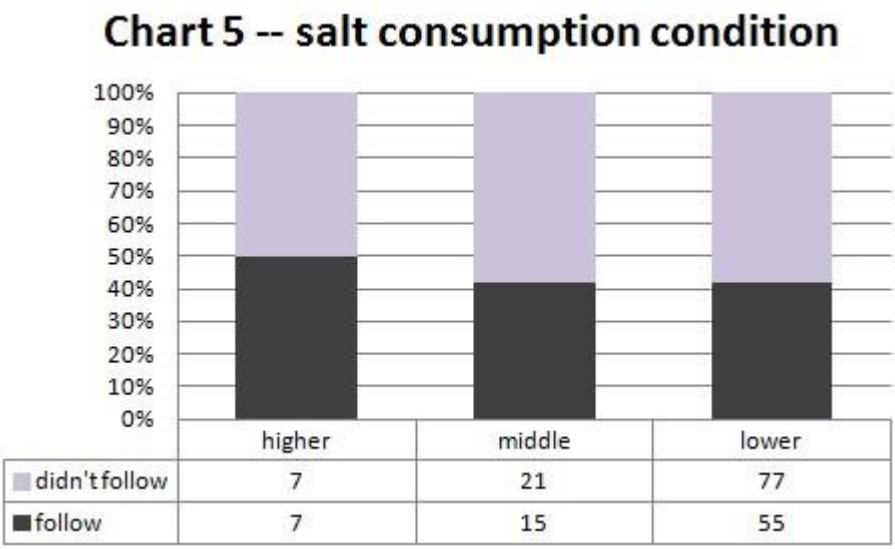
As the chart shows, almost 90% of patients in higher and middle groups could follow guide book and doctor's suggestion but in lower group, nearly 80% of patients followed the guide book



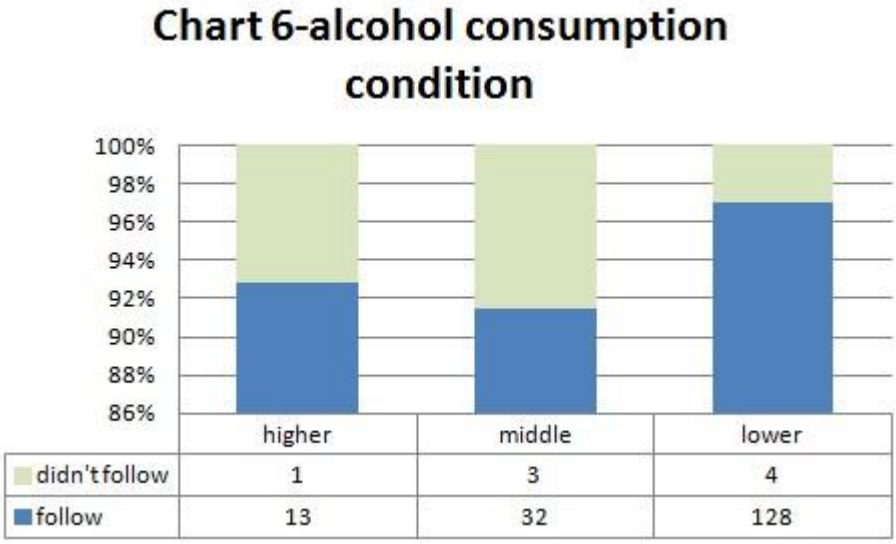
As we can see from this chart, patients in consumption didn't follow the guide book so well as grain and milk. Even in higher group, only 60% patients can follow the "rules". In lower group, only 35% patients can follow the guide book. This number is extremely lower than that in chart 1 and chart 2.



We can understand from this chart, nearly 60% patients in higher group,42% patients in middle group and 45% patients in lower group take meat not more than 200g.



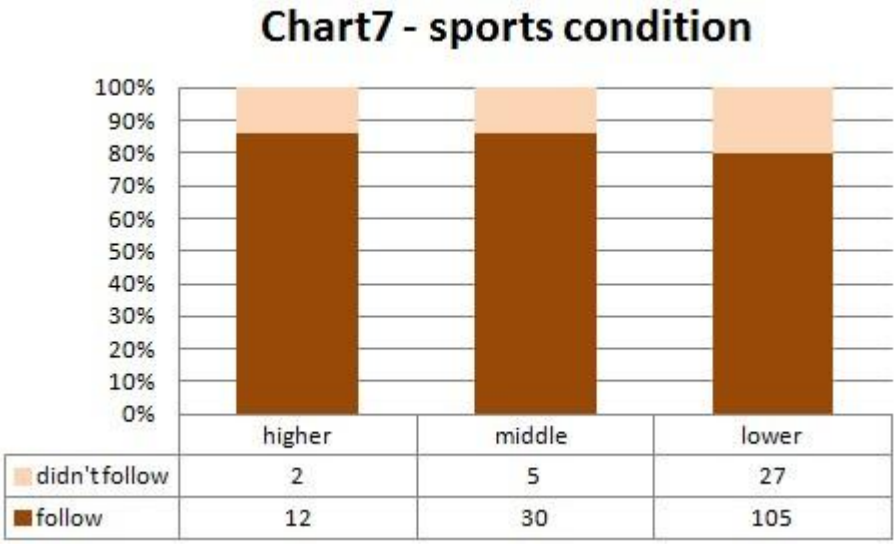
In this question, I asked them "do you make dish in salty taste?", "how many spoons salt do you cost every day?"and "how much salty taste sauce do you use every day?" Based on these three questions, I can know they eat salt less than 6g or not. As the chart shows, less than half of the patients can take salt less than 6g. In other words, more than half patients take salt more than 6g every day.



According to the guide book, diabetic patients should not take more than 10g alcohol every day which means they cannot take more than 500ml beer or 50ml spirit or 200ml wine. As the chart showed, more than 90% patients take alcohol followed the guide book. Only a small number of patients should paid more attention on this problem.

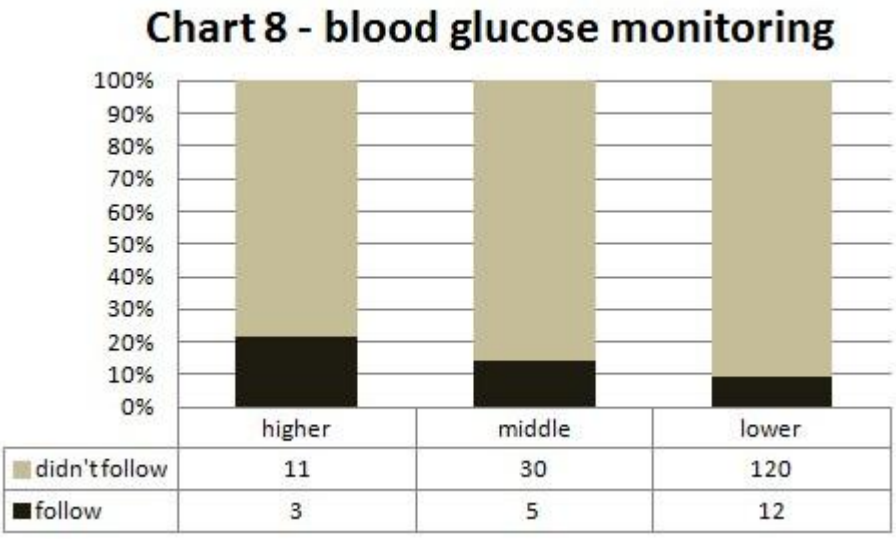
The next question is sports condition. I asked what kinds of sports do you usually do and how long time do you do every day. According to Chinese Diabetes Guide Book,

diabetic patients should do sports 3-4 times every week and every time should not less than 20 minutes. Among the 181 patients, expect 9 patients said they do swimming and dance, other 172 patients said they are walking. For the time they do sports, I made a chart as follow.



As the chart shows, most of the patients could follow the guide book to do the sports, even in lower group, there are 80% patients can follow the guide book.

The last question is blood glucose monitoring. Here, I asked how often do you monitor your blood glucose. According to Chinese Diabetes Guide Book, patients should monitor blood glucose 1-2 times per week if diabetes in a stable condition. If diabetes is in unstable condition, the monitoring frequency should be increased but should follow the doctors' suggestion. The research result is showed as follow.



As the chart shows, in higher group, only 20.5% patients could monitor blood glucose as the guide book suggestion. In middle and lower group, the numbers haven't reach 20%.

3. Discussion:

Summary of the result:

This research is regarding the diabetes care among patients in different socioeconomic groups. As we can see from the charts, patients in higher, middle and lower groups take care of Type 2 diabetes are very differently. The result of the field research can be summarized in four points.

1. The socioeconomic positions of this hospital's patients are low. Most of the patients do not have good education background and high salary job. This may because of the location of this hospital. This hospital is located in Hedong District of Tianjin. This district was a poverty area about fifty years ago. Many old people here couldn't be well educated when they were young. In order to support the poor family, they must give up education opportunity and go to work. But in the fifty years later now, without a good education, workers cannot get promotion and good salary. Therefore, their socioeconomic positions are low.
2. In diet, depends on the food, the following percent is also different. ① The following percent of grain consumption, milk consumption and alcohol consumption is better than salt consumption, oil consumption and meat consumption. ② Compare to other food, patients seem to fail in controlling eat salt. According to the chart above, only less than 50% patients could follow the guidebook which said to take salt less than 6g every day.
3. Almost all the patients do sports every day. For few people said they rarely do sports, the reasons are "very busy", and "to look after grandchildren and very tired". Among the patients, more than 80% people can do the sports follow the guide book which said "patients should do sports 3-4 times every week and every time should not less than 20 minutes". But most of these sports are "forced movement". Forced movement is bad for patients' future diabetes care. Details will be explained in the following ground.

4. The monitoring of blood glucose can be said the worst part of patients' diabetes care. Not more than 20% of patients followed the guide book and doctor's suggestion to monitor blood glucose. Some patients even don't know how often they should monitor blood glucose. When I ask "do you know how often you should monitor blood glucose"? Someone answered "I only monitor blood glucose when I feel bad". The reason for this problem is related to their socioeconomic position. I will try to explain the reason in the following part.

Analysis:

In this part, I will try to analysis the reasons for the result from culture and economy in Tianjin because these two factors are very closely related to socioeconomic position.

Tianjin is a developing city which in rapid development in recent years. Here, I have a chart to show the growth rate of Tianjin's GDP and Chinese GDP. This chart is from the official website of Chinese government.

	GDP (Yuan)	GDP Growth rate in Tianjin	GDP Growth rate in China
2012	1,288,518	13.8	7.8
2011	1,130,728	16.4	9.2
2010	922,446	17.4	10.4
2009	752,185	16.5	9.1
2008	671,901	16.5	9.6
2007	525,276	15.5	14.2
2006	446,274	14.7	12.7
2005	390,564	14.9	11.3
2004	311,097	15.8	10.1

As we can see from the chart, the economy of Tianjin was developed very rapid in recent 10 years. From 2004, Tianjin's GDP growth rate was continue increased more than 13%. Compare to the Chinese GDP, Tianjin's growth rate seems faster. But, the rapid economy development speed is a double-edged sword. The developing economy brought people rich lives, and the same time, it also brought people Type 2 diabetes. According to Enorth Web (2012), "the prevalence of Type 2 diabetes in Tianjin was increased 14 times compare to 30 years ago. In 1970s, because of the lack of food and

rich of physical activity, most of Type 2 diabetes was caused by gene. But now, since people's lives become better and better, fat and less of sports have become the largest risk factors of Type 2 Diabetes. Because of the extremely shortage of food in the past 50 years, people always eat and drink too much when lives get better. This is why the prevalence of Type 2 diabetes increased so fast in recent 20 years."Although the economy developed in a short time, people's health consciousness and self health management cannot be increased in such a short time, therefore, there are too much people eat and drink too much when lives get better, especially those oily food. This is why most of patients can control grain and milk but difficult to control meat, oil and salt.

Expect of economic reason, culture is another reason for Tianjin people to eat too much oily and salty food. That is, to put much oil and much salt is one of the factors of Tianjin cuisine. According to an article named "Four problems of traditional Tianjin cuisine" published in Tianjin Health Net (2007), "to put too much oil is the largest problem in Tianjin cuisine. The healthiest lifestyle is to eat 25g oil everyday (about two and half spoon). But most of the family use oil more than this standard; some people even eat 40g oil every day. " According to Tianjin Daily News (2008), "Tianjin people eat too much salt every day. Because of preferring for salty taste, Tianjin people always take salt one more time than the standard 6g. Also, much of the traditional Tianjin cuisine has dark color, so Tianjin people usually put much soy source in the dish. Because of this, the consumption of salt of Tianjin people is too much." Culture cannot be changed in a short time. In order correct this bad habit; we can educate patients to decrease salt consumption gradually and encourage them to use low salt soy source."

In my research, I found more than 80% patients can follow the guide book to do physical activity. But I found a problem is, there are few people to do sports from their self consciousness; most of them are "forced move". In "Chinese Insurance Newspaper" (2011), "in China, only 20% people have a habit to do sports regularly and more than 40% people lack of physical activities." In my graduation research of my bachelor, I used to research the lifestyle of bank staff and logistics employees. In this research, I also found that these two groups rarely do sports. Among logistics employees, I found they can do enough sports every week but this is "forced move". Lack of sports consciousness is one of the largest problems in diabetes care. Although they are doing sports enough currently, if their diabetes in a stable status, they would

not continue doing sports any longer, and this would be a risk factor of diabetes care at that time.

Blood glucose monitoring can be said the worst part of diabetes care among these patients. Even in higher socioeconomic group, only 20% patients can follow the guide book and doctors' advice monitor blood glucose. Compare to other items, blood glucose monitoring showed apparent difference. But why? Why blood glucose monitoring so different? I think the answer can be searched for from access to care and diabetes education. The two factors should be discussed separated. "Access to care" encompasses the availability of health care service (potential access) and use of those services by patients (realized access) (Brown, Ettner, Piette, etc, 2004). In my case, access to care can be said the availability to monitor blood glucose. In Tianjin, diabetic patients monitor blood glucose usually go to hospital. But, they have a problem is, in their living community, there is no hospital. Tianjin government took an active part in establishing hospitals in community these years. But in Hedong District such sub-developed area, community hospitals haven't been widespread. And in big hospitals, they are difficult to get a number in big hospitals. "It is difficult and expensive to visit doctors" is one of the problems in current Chinese medical system. Because that, these lower SEP patients "lost" the chances to monitor blood glucose. Expect that, diabetes education is another reason for the bad blood glucose monitoring problem. In developed area, diabetic patients use blood glucose meter to monitoring blood glucose. But in my study, the patients said they "don't know how to use it" and they "don't think it is necessary to buy one". According to another research, in China, more than 90% diabetic patients cannot monitor blood glucose regularly. Someone even monitor once during one year. Many patients only monitor blood glucose when diabetes in an unstable condition (Cheng Zhongrong, 2008). In my study, when I ask patients "why don't you monitor more often?" The most answer is "I don't think it is necessary because I am not feeling sick." Their answers are corresponding Doctor Cheng's research. In order to solve this problem, I think to strengthen diabetes education is necessary. Doctors should tell patients how often they should monitor blood glucose and teach them how to use the blood glucose meter. Lack of education is a major reason caused this problem.

5. Weakness of research:

There are some weaknesses in my research. First, in my research, the patients are all from sub-developed area which means their socioeconomic position are not very high. In the future research, I try to more patients from high socioeconomic position so that compare would be clearer. Second, the sample should be larger. In previous studies, the sample size at least is 400 patients. Because of the hospital limitation, I can get 181 data only. Third, if possible, I would like to do face-to-face interview in the future. In telephone, there is a sense of distrust between each other. This sense may influence the accuracy of data.

6. Conclusion:

This study is to research how the different SEP patients follow guide book and doctors' suggestion to take care of diabetes. Through this research, I found most of patients in this hospital have low socioeconomic position. Because of the low socioeconomic position, patients have less availability to go to hospital to monitor blood glucose. Tianjin is a developing city. This city is developed very fast in recent 10 years, but the citizen health consciousness cannot be increased in such a short time. Therefore, to eat and drink too much has become a habit in citizen's life. Also, culture is another reason for the bad eating habit. Traditional Tianjin cuisine is very oily and salty so Tianjin people always consume much salt in daily life. In my research, I also found patients don't like initiative physical activities. This would become another risk factor for the future diabetes care. In the future, I would like to research diabetes education of this hospital because I found many problems on patients can be solved by education. At that time, the data in my report may also be used.

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