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A qualitative exploration of factors affecting dietary quality with obesity among workers

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ABSTRAK

Latar Belakang: *Diperkirakan sebanyak 1 milyar penduduk dewasa atau 12% populasi dunia mengalami obesitas pada tahun 2025. Obesitas di Indonesia juga mengalami peningkatan yang pesat khususnya pada kelompok dewasa dan pekerja. Penyebab utama obesitas pada pekerja salah satunya karena kualitas diet yang rendah dan asupan energi berlebih sehingga menyebabkan ketidakseimbangan energi.*
Tujuan: *Tujuan penelitian ini adalah untuk mengeksplorasi faktor-faktor yang mempengaruhi kualitas diet dengan timbulnya obesitas pada pekerja perusahaan di Kalimantan Timur.*
Metode: *Penelitian ini menggunakan desain kualitatif dengan responden yaitu pekerja obesitas. Secara keseluruhan, 25 orang responden yang dibagi menjadi 5 kelompok focus group discussion (FGD) untuk dilakukan wawancara semi terstruktur. Penetapan responden dilakukan secara purposive berdasarkan unit kerja. Pengumpulan data menggunakan perekam audio dan pencatatan. Data demografi dikumpulkan menggunakan kuesioner, FGD menggunakan instrumen berupa panduan yang berisi daftar pertanyaan mencakup pengetahuan tentang pola makan sehat dan obesitas, kualitas diet, kontrol diri dalam pemilihan makanan dan pengaruh lingkungan di tempat kerja. Data dianalisis menggunakan metode analisis isi, sintesis tematik dan triangulasi untuk validasi.*
Hasil: *Hasil penelitian menunjukkan bahwa terdapat 4 faktor utama yang mempengaruhi kualitas diet dan obesitas pada pekerja, yaitu: kurangnya pengetahuan tentang pola makan sehat, kualitas diet yang rendah, kurangnya kontrol diri dalam pemilihan makanan, dan pengaruh lingkungan makan serta media sosial di tempat kerja.*
Kesimpulan: *Studi ini menyediakan informasi faktor-faktor yang mempengaruhi kualitas diet dengan terjadinya obesitas pada pekerja. Diperlukan dukungan dari perusahaan tempat kerja untuk meningkatkan kualitas diet dan kesehatan pekerja.*

KATA KUNCI*: kualitas diet; obesitas; pekerja*

ABSTRACT

Background: *It is estimated that as many as 1 billion adults will be obese by 2025. Obesity in Indonesia is also increasing rapidly, especially among adults and workers. One of the main causes of obesity in workers is low dietary quality and excessive energy intake.*

Objectives: *The aim of this research is to explore the factors affecting diet quality and obesity in company workers in East Kalimantan.*

Methods: *This study uses a qualitative design conducted in an industrial company in East Kalimantan. The respondents are workers with obesity. Overall, 5 semi-structured focus groups discussion (FGD) were conducted with a total of 25 respondents who were determined purposively according to work units. Respondents demographic data were collected through a short questionnaire. Data collection using an audio recorder and notes. The instrument to be used is a FGD guide that contains questions related to knowledge about healthy eating patterns and obesity, dietary quality, self-control in food choices and influence of workplace food environment. Qualitative data is processed and analyzed using analytical methods content, thematic synthesis and triangulation for validation.*

Results: *The result of this study shows that there are four main themes affecting dietary quality and obesity among workers. These factors are: lack of knowledge about healthy eating patterns, low dietary quality, lack of self-control and influence of workplace food environment.*

Conclusions: *This study provides information on factors affecting diet quality and obesity in workers. Support from workplace is needed to improve the quality of workers' diets and health.*

KEYWORD*: diet quality; obesity; workers*

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INTRODUCTION

Obesity is an excessive accumulation of fat in the body due to an imbalance between energy intake and energy used for a long time. Obesity has now developed into a global health problem that threatens populations around the world in both developed and developing countries. Indonesia is one of the countries with a high obesity rate, reaching 21.8% ((1).

East Kalimantan Province is one of the provinces in Indonesia with the largest number of people experiencing obesity. The trend of obesity in adults in East Kalimantan increased rapidly every year from 18.7% (2007), 20.6% (2013) (2), 28.7% (2018) (3), and 28% (2023) (4). This situation is increasingly complicated by the health implications that arise from obesity, namely an increased risk of non-communicable diseases (NCDs) such as hypertension, diabetes, dyslipidemia and cardiovascular diseases (5). This increasing trend is related to the nutritional transition in Indonesia, where there are changes in the diet of the population not only from high socioeconomic levels and living in urban areas, but also from the population in rural areas (6). This change occurred in the increase in the consumption of processed foods, oils and fats, flour and processed foods, meat, eggs, milk, and ultra-processed foods (7).

Adults spend approximately 7-8 hours a day in the work environment. The workplace environment has a role in the onset of obesity triggered by unhealthy eating behaviors in workers such as often skipping meals, the habit of consuming foods that contain high energy, sugar, salt and fat, and not consuming enough vegetables and fruits (8,9). Eating behaviors that trigger obesity can result in decreased work productivity, increased absenteeism in the office, increased spending on health problems and pain rates among workers (10). Diet quality refers to the consumption of diverse, nutritious, and balanced foods to meet the energy needs and all the essential nutrients that the body needs in order to live a healthy and productive life. High quality diet can prevent the onset of nutritional problems and non-communicable diseases (11).

Most previous studies on obesity in Indonesia have concentrated on quantitative analyses of

prevalence, risk factors, and sociodemographic determinants in the general population. However, little is known about how workers themselves perceive and experience the factors that influence their dietary quality and contribute to obesity, particularly within the workplace context. Qualitative research that explores these phenomena from the perspective of workers is still limited, especially in East Kalimantan where obesity rates are rapidly increasing. Therefore, this study aims to fill the gap by qualitatively exploring the factors that affect diet quality and the emergence of obesity among workers in an industrial setting.

MATERIALS AND METHODS

This study uses a qualitative method with a phenomenological approach conducted in an industrial company in East Kalimantan. The established inclusion criteria are: 1) workers who work at the research location and 2) experiencing obesity with a BMI >28 kg/m2. A total of 25 respondents were purposively selected based on work units to participate in five semi-structured FGD sessions. In each work unit, 5 samples of workers with obesity (WO) were selected. In addition to in-depth interviews with workers, this study also involved semi-structured interviews with one company executives (EX) to explore institutional perspectives on workplace health promotion and support for healthy eating. The interviews were conducted using semi-structures interview guide framework, with additional probes regarding company initiatives, facilities, and perceived challenges in implementing health-related policies. Respondents' demographic data were collected through a short questionnaire before the interview.

Qualitative data collection through a FGD recorded using an audio recorder. The instrument to be used is a FGD guide in the form of a structured list of questions that include knowledge about healthy eating patterns and obesity, dietary quality, self-control in food choices and influence of workplace food environment. Qualitative data is analyzed using thematic synthesis with coding based on keywords derived from the main topics. The coding process, carried out using NVivo software, categorized the data into primary themes and predefined sub-themes. Processing procedures of qualitative data is carried out in stages: 1) Compile data transcripts with converting electronic recordings and notes into written form, 2) Simplifying the data into topic/theme, 3) Triangulation is carried out through a check and recheck process between data sources by comparing and connecting with other data sources. Conclusions are made after the researcher considers that the research data is saturated.

RESULTS AND DISCUSSIONS

Data on the demographic characteristics of respondents including gender, age, marital status, and education are presented in **Table 1**. Respondents consisted of 17 females and 8 males, with the majority aged less than 40 years old. Almost all respondents were married. The educational level of most respondents is undergraduate university.

Table 1. Demographic characteristics of respondents

Demographics	n	%
Gender		
Male	8	32
Female	17	68
Age range		
<40 years	5	20
>40 years	21	84
Marital status		
Single	0	0
Married	24	96
Divorced/Widowed	2	8
Education level		
High school	2	8
Diploma	5	20
Undergraduate University	18	72

Table 2 presents the focus group discussion guide with 4 main areas of interest: knowledge related to healthy eating patterns and obesity, diet quality, self-control regarding food choices and the influence of workplace environment. Descriptions of information from the FGD results include a selection of quotes from respondents and are presented in the form of a summary of the FGD results along with the main themes that emerged.

Lack of knowledge about healthy eating patterns

Most of the workers did not know much about healthy eating patterns. Most of them only associate it with the concept of 4 healthy 5 perfect. Although most respondents did not explicitly know the concept of balanced nutrition, they understood that healthy food generally consists of sources of carbohydrates (staple foods), vegetables, fruits, and sources of protein. However, none of the respondents had a deep understanding of the principles of balanced nutrition, such as consumption diversity, recommended portions, restrictions on the intake of foods high in sugar, salt, and fat, as well as how to read the nutrition facts on food labels. The following statement is a response from one of the workers (WO1):

"*A healthy diet that I know is 4 healthy 5 perfect foods... but I don't usually eat fruit and drink milk*..." (Mrs M, 49 years old).

Meanwhile, for questions related to obesity, all respondents knew about obesity and the factors that cause it, namely excessive food intake and lack of movement, as in the following statement of WO2:

"*Obesity is fat, excess fat... like me... the cause is like too much eating, snacking, but not doing enough exercise*" (Mrs D, 36 years old)

Table 2. The focus group discussion guide

Area of interest	Question
1. Knowledge about healthy eating patterns and obesity	1. What do you know about healthy eating patterns? 2. How do you feel about your eating patterns? 3. What do you know about obesity? 4. What are the causes of obesity?
2. Dietary quality	1. How would you describe your diet? 2. What factors influence your diet? 3. What are your food preferences? 4. How do you describe the adequacy of your food intake?
3. Self-control in food choices	1. How much can you control your diet? 2. What are your obstacles in controlling your diet?
4. Influence of workplace food environment	1. Can you identify barriers to following a healthy diet? 2. Has your workplace environment ever affected (positively or negatively) your diet? 3. What facilities are available at meal times in your workplace? 4. Describe the availability of foods at your workplace

Knowledge is one element that plays a role in influencing a person's lifestyle and eating patterns. A person with limited knowledge regarding nutrition is likely to have an unhealthy lifestyle and poor eating patterns. Otherwise, someone who has sufficient knowledge regarding nutrition is more likely to be able to adopt a healthy lifestyle and eating patterns (12). These results are in line with research by Jaminas and Mahmudiono (2018) which found that there was a relationship between nutritional knowledge and the incidence of obesity in female workers. Workers who have a high level of nutritional knowledge are less likely to experience obesity because it is associated with better food choices (13).

Low diet quality

Most worker respondents have irregular eating patterns, often skip breakfast, like to consume snacks and drinks that are high in calories, fat, sugar, salt, and low in fiber, vitamins and minerals. Apart from that, due to frequent consumption of snacks, most workers are less likely to consume complete meals at mealtimes on the grounds that they feel full. They state that what they eat is enough if they feel full.

"*I don't usually eat breakfast, so I usually just buy cakes to eat at the office... then I eat lunch in the canteen, I rarely eat at night... I just cook simple things for my children and husband at home...*" (WO3, Mrs I, 32 years old).

"*...after snacking, I usually don't eat much because I already feel full...*" (WO4, Mrs. FS, 31 years old).

Diet quality mainly consists of four categories, namely diversity, adequacy, moderation and overall dietary balance. Diet quality is closely related to the occurrence of obesity due to inadequate nutritional intake, especially excessive energy intake. High diet quality is related to an adequate eating pattern to maintain body health, including adequacy of macro and micro nutrients. In contrast, low diet quality is a diet that is associated with high intake of energy and fat but low in fiber and micronutrients (14). The results of this research are in line with research conducted on urban workers in Indonesia, most of whom have a western diet, namely a diet high in consumption of processed foods and sweet drinks. This eating pattern is associated with increased health risks including obesity (15,16). Processed foods have a high calorie content so they can cause weight gain (17).

The results of this research are also consistent with the results of the Riskesdas survey which found that the diet of Indonesian people is still not in accordance with the recommendations. The proportion of people who eat less vegetables and fruit in the age group >10 years was 95.5% in 2018, accompanied by continued high consumption of sugar, salt and fat which will increase the risk of chronic disease. As many as 29.7% or the equivalent of 77 million Indonesians consume sugar, salt and fat in excess of the recommendations issued by WHO (18)

Lack of self-control in food choices

Almost all workers feel they have obstacles in implementing healthy eating behavior due to lack of self-control. They are aware of their poor eating behavior, but are often tempted by snack foods which should be consumed in limited quantities because they contain high in calories, fat, sugar and salt.

"*I've been on a diet for several months now... but yeah, sometimes I still like to be tempted by fried cakes and sweet drinks... which are a bit hard to hold back...*" (WO5, Mrs. T, 35 years old).

Several respondents particularly working mothers who engage in limited physical activity reported attempting to adopt healthier eating habits by reducing dinner portions, avoiding fried snacks, cutting back on sugary drinks, and limiting their consumption of street foods. However, maintaining these dietary changes was perceived as challenging due to the strong social influence of coworkers and the surrounding environment. Respondents commonly cited that group snacking or eating together during work hours created social pressure to join, even when they had intentions to avoid such foods.

"*Sometimes it's not that I really want to eat those snacks... but when everyone's ordering or bringing food, it's hard to say no...*" (WO7, Mrs. L, 34 years old).

In addition to self-control challenges, some respondents also exhibited a lack of dietary diversity. Although they attempted to avoid unhealthy items, their meals often lacked variety, particularly in terms of fruits and vegetables, which can compromise overall diet quality. Self-control is a person's influence or regulation of physical, behavioral and psychological processes, the ability to control oneself and overcome all its weaknesses (19). In line with a study which found that obese people have lower self-control capability than people with normal nutritional status (20). Other studies also found that low self-control is linked to higher body weight and lower weight-related wellbeing (21).

Influence of the workplace food environment

The environment has a strong influence on the quality of the respondent's diet. The influence of fellow colleagues and social media is the strongest. Most respondents admitted that they often try new foods or snacks because they see them on social media. Apart from that, workers also often buy snacks or drinks together because they feel uncomfortable if they don't join in eating and gathering.

"*You can't go on a diet at the office... Every day friends bring snacks and eat them together... sometimes you buy them via online applications for fried food, coffee drinks or tea... coincidentally there are friends here who sell drinks too... so I like to offer them, buy them all together*" (WO8, Mr B, 35 years old). As a result, several workers realized that they had gained weight during their work for approximately 8 years at the company, as stated by WO9, Mrs. DW (33 years) as follows:

"*When I first started working and wasn't married... my weight was still normal... but after a while it didn't feel like it had increased and it became like now.... many of my friends also got fat... yes, maybe because they like snacks*."

According to most workers, food management in the company also does not support healthy eating behavior, where the canteen menu does not provide enough portions of vegetables, the food processing technique is mostly fried and there is a lack of variety in the food menu.

"*I think the food in the canteen is a bit lacking in vegetables... and lacks variety in types of food...*" (WO10, Mr A, 42 years old).

These perceptions were partially echoed by the company executive, who acknowledged the absence of formal nutrition policies, while describing existing mechanisms such as the canteen committee, regular menu planning, and worker satisfaction surveys. While the executive believed that the meals generally met Indonesian taste preferences and offered balanced components (vegetables, protein), they also recognized room for improvement, particularly by reducing fried items and increasing the availability of boiled-based dishes.

"*Every month, I get a survey to give feedback about the food. I suggest reducing fried foods and increasing boiled foods. The canteen committee takes care of it. MCU is also done once a year, the results were sent to the headquarters in Jakarta but there was no follow-up on the MCU results*" (EX1, Mr A, 47 years old).

Similarly, company executives highlighted cultural expectations of workers, such as the perception that meals must include rice, as a barrier to adopting healthier eating patterns. In some locations, the limited availability of raw vegetables (ulam) further reduced opportunities for balanced eating. Despite these challenges, some employees reported taking personal initiatives to stay healthy, including engaging in regular physical activity such as weekly badminton sessions. In addition, the company has implemented periodic health education sessions for employees, typically conducted in collaboration with local health centres (puskesmas) or clinic-based doctors. These insights underscore the role of both social influences and institutional food environments in shaping dietary behaviors in the workplace setting.

"*For me personally, there's no problem eating healthy. But for others, there are some challenges, like the national culture... staff here feel that rice must be part of every meal. Also, things like raw vegetables (ulam) that are common in other places are not always available here*". (EX1, Mr A, 47 years old).

The environment has a strong influence on the incidence of obesity. A person will more easily gain weight if they have friends or family members who are also fat or obese (22). A large-scale study of corporate workers in America found that there was influence from fellow workers on their food choices. Coworkers can influence healthy and unhealthy eating behavior. The influence of long-term unhealthy eating behavior in the workplace will cause obesity (23), so health promotion strategies are needed to encourage healthy eating patterns in the workplace (24)

CONCLUSION AND RECOMMENDATION

The result of this study shows that there are four main themes affecting dietary quality and obesity among workers. These factors are: lack of knowledge about healthy eating patterns, low dietary quality, lack of self-control and influence of workplace food environment. This study provides information to the workplace to support and improve dietary quality and health of workers. In

light of these findings, it is recommended that workplaces implement targeted nutrition education programs that promote balanced eating, limit the intake of sugar, salt, and fat, and encourage increased consumption of fruits and vegetables. Such initiatives could contribute to healthier dietary behaviors and the prevention of obesity and related non-communicable diseases among workers.

A notable limitation of this study is the absence of quantitative dietary intake data, which restricts our ability to present objective indicators of dietary diversity, adequacy, and moderation. Nevertheless, the qualitative design was purposefully employed to explore participants' conceptualizations of balanced eating and the contextual factors influencing their food choices. Future studies employing a mixed-methods approach integrating qualitative inquiry with standardized dietary assessment tools are recommended to enhance the depth and breadth of dietary behavior analysis.

REFERENCES

1. World Obesity Federation. World Obesity Federation. 2022 [cited 2025 Oct 1]. World Obesity Atlas 2022. Available from: https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022
2. Badan Penelitian dan Pengembangan Kesehatan. Riset Kesehatan Dasar (Riskesdas) 2013 [Internet]. Indonesia; 2013 [cited 2025 Oct 1]. Available from: http://labdata.litbang.kemkes.go.id/images/download/laporan/RKD/2013/Laporan_riskesdas_2013_final.pdf
3. Badan Pengelitian dan Pengembangan Kesehatan. Riset Kesehatan Dasar (Riskesdas) 2018. Indonesia; 2018.
4. Badan Kebijakan Pembangunan. Survei Kesehatab Indonesia (SKI) Dalam Angka [Internet]. Indonesia; 2023 [cited 2025 Oct 1]. Available from: https://drive.google.com/file/d/1rjNDG_f8xG6-Y9wmhJUnXhJ-vUFevVJC/view
5. Nyberg ST, Batty GD, Pentti J, Virtanen M, Alfredsson L, Fransson EI, et al. Obesity and loss of disease-free years owing to major non-communicable diseases: a multicohort study. Lancet Public Health. 2018 Oct 1;3(10):e490–7.
6. Mehraban N, Ickowitz A. Dietary diversity of rural Indonesian households declines over time with agricultural production diversity even as incomes rise. Glob Food Sec. 2021 Mar 1;28.
7. Oddo VM, Maehara M, Rah JH. Overweight in Indonesia: An observational study of trends and risk factors among adults and children. BMJ Open. 2019 Sep 1;9(9).
8. Parinduri FK, Djokosujono K, Parinduri SK. Faktor Dominan Obesitas Sentral Pada usia 40 - 60 Tahun di Indonesia(Analisis Data Indonesian Family Life Survey 5 Tahun 2014/2015). Jurnal Kesehatan Masyarakat (HEARTY) [Internet]. 2021;9(2):58–70. Available from: http://ejournal.uika-bogor.ac.id/index.php/Hearty/issue/archive
9. Grant J. Eating behaviours and the workplace: The role of socioeconomic and sociodemographic characteristics. [Nottingham]: University of Nottingham; 2018.
10. Asay GRB, Roy K, Lang JE, Payne RL, Howard DH. Absenteeism and employer costs associated with chronic diseases and health risk factors in the US workforce. Prev Chronic Dis. 2016;13(10).
11. Hlaing-Hlaing H, Dolja-Gore X, Tavener M, James EL, Hodge AM, Hure AJ. Diet quality and incident non-communicable disease in the 1946–1951 cohort of the australian longitudinal study on women's health. Int J Environ Res Public Health [Internet]. 2021 Nov 1 [cited 2025 Oct 1];18(21):11375. Available from: https://www.mdpi.com/1660-4601/18/21/11375/htm
12. Guiné RPF, Florença SG, Aparício MG, Cardoso AP, Ferreira M. Food Knowledge for Better Nutrition and Health: A Study among University Students in Portugal. Healthcare [Internet]. 2023 Jun 1 [cited 2025 Oct 1];11(11):1597. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10252302/
13. Jaminah, Mahmudiono T. The Relationship between Knowledge and Physical Activity with Obesity in The Female Worker. Jurnal Berkala Epidemiologi [Internet]. 2018 Aug 30

[cited 2025 Oct 1];6(1):9–17. Available from: https://e-journal.unair.ac.id/JBE/article/view/9499

14. Alipour Nosrani E, Majd M, Bazshahi E, Mohtashaminia F, Moosavi H, Ramezani R, et al. The association between meal-based diet quality index-international (DQI-I) with obesity in adults. BMC Nutr [Internet]. 2022 Dec 1 [cited 2025 Oct 1];8(1). Available from: https://pubmed.ncbi.nlm.nih.gov/36575543/
15. Jiang K, Zhang Z, Fullington LA, Huang TT, Kaliszewski C, Wei J, et al. Dietary Patterns and Obesity in Chinese Adults: A Systematic Review and Meta-Analysis. Nutrients [Internet]. 2022 Nov 1 [cited 2025 Oct 1];14(22). Available from: https://pubmed.ncbi.nlm.nih.gov/36432596
16. Kopp W. How Western Diet And Lifestyle Drive The Pandemic Of Obesity And Civilization Diseases. Diabetes Metab Syndr Obes [Internet]. 2019 [cited 2025 Oct 1];12:2221. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC6817492/
17. Rakhra V, Galappaththy SL, Bulchandani S, Cabandugama PK. Obesity and the Western Diet: How We Got Here. Mo Med [Internet]. 2020 [cited 2025 Oct 1];117(6):536. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7721435/
18. Jahari AB, Soekatri M, Penelitian dan Pengembangan Upaya Kesehatan Masyarakat P, Kesehatan Kemenkes Jakarta PI, Gizi J. ASUPAN GULA, GARAM, DAN LEMAK DI INDONESIA: Analisis Survei Konsumsi Makanan Individu (SKMI) 2014. GIZI INDONESIA [Internet]. 2016 Jan 12 [cited 2025 Oct 1];39(1):1–14. Available from: https://www.persagi.org/ejournal/index.php/Gizi_Indon/article/view/201
19. Billore S, Anisimova T, Vrontis D. Self-regulation and goal-directed behavior: A systematic literature review, public policy recommendations, and research agenda. J Bus Res. 2023 Feb 1;156.
20. Will Crescioni A, Ehrlinger J, Alquist JL, Conlon KE, Baumeister RF, Schatschneider C, et al. High trait self-control predicts positive health behaviors and success in weight loss. J Health Psychol [Internet]. 2011 Jul [cited 2025 Oct 1];16(5):750–9. Available from: https://pubmed.ncbi.nlm.nih.gov/21421645/
21. Cobb-Clark DA, Dahmann SC, Kamhöfer DA, Schildberg-Hörisch H. Self-control and unhealthy body weight: The role of impulsivity and restraint. Econ Hum Biol [Internet]. 2023 Aug 1 [cited 2025 Oct 1];50. Available from: https://pubmed.ncbi.nlm.nih.gov/37453372/
22. ter Ellen F, Oude Groeniger J, Stronks K, Hagenaars LL, Kamphuis CBM, Mackenbach JD, et al. Understanding the dynamics driving obesity in socioeconomically deprived urban neighbourhoods: an expert-based systems map. BMC Med [Internet]. 2025 Dec 1 [cited 2025 Oct 1];23(1):1–15. Available from: https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-024-03798-x
23. Leung SL, Barber JA, Burger A, Barnes RD. Factors associated with healthy and unhealthy workplace eating behaviours in individuals with overweight/obesity with and without binge eating disorder. Obes Sci Pract [Internet]. 2018 Apr 1 [cited 2025 Oct 1];4(2):109. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC5893464/
24. Levy DE, Pachucki MC, O'Malley AJ, Porneala B, Yaqubi A, Thorndike AN. Social connections and the healthfulness of food choices in an employee population. Nat Hum Behav [Internet]. 2021 Oct 1 [cited 2025 Oct 1];5(10):1349. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8530824/