



Knowledge, Attitudes, and Practices in Sustainable Nutrition in Late Adulthood- A Qualitative Analysis

Anukrati Sekhri^{1*}, Ragini Ranawat², Harsha Jain³ and Kritika Lodha⁴

^{1,3,4}Research Scholar, ²Assistant Professor, Department of Home Science, University of Rajasthan, Jaipur, India

*Corresponding author email id: anukratisekhri23@gmail.com

HIGHLIGHTS

- Investigates the knowledge, attitude, and practices (KAP) of sustainable nutrition among Jaipur residents aged 50 and above.
- Uses qualitative research through semi-structured interviews to explore food choices, purchasing behaviour, and environmental awareness.
- Finds that traditional food habits influence sustainability, but modern convenience trends pose challenges.
- Suggests the need for targeted education to improve sustainable dietary practices among older adults.

ARTICLE INFO

Keywords: Sustainable nutrition, Late adulthood, Food choices, Carbon footprint, Knowledge-Attitude-Practice (KAP).

<https://doi.org/10.48165/IJEE.2025.61216>

Conflict of Interest: None

Research ethics statement(s):

Informed consent of the participants

ABSTRACT

Sustainable nutrition is the need of the hour to ensure optimal health without jeopardizing the needs of the upcoming generations. This study, conducted in 2024, investigates the knowledge, attitudes, and practices (KAP) pertaining to sustainable nutrition among individuals in late adulthood (above the age of 50). A sample of 20 residents of Jaipur city, above the age of 50 years, was chosen and a qualitative research design was used. In-depth, semi-structured interviews were conducted to understand the participants' approach as well as knowledge of sustainable nutrition, their dietary habits, food purchasing decisions and the factors influencing their food choices. The study revealed that participants understand the importance and need of sustainable nutrition practices, yet they do not reflect this sense of responsibility in their choices. The discrepancy between the two owes to multiple factors including convenience, accessibility issues and a high purchasing power. The impact of this study extends beyond understanding the behavioural patterns of the individuals in their late adulthood. By identifying the knowledge gaps, efforts can be channelised towards developing educational programs that encourage wiser, more sensitive, and informed choices among this age group.

INTRODUCTION

The significance of sustainable nutrition has grown as communities aim to integrate health-conscious eating with environmental conservation. This concept emphasizes the consumption of foods with a lower ecological footprint by reducing carbon emissions, optimizing waste disposal, and promoting local food production (Ruini et al., 2015). Such dietary choices enhance personal health and ensure the preservation of natural resources for future generations (Guillaumie et al., 2020). Environmental

changes affect agriculture and food production, while food choices, in turn, influence the environment, creating a continuous and reinforcing cycle, making sustainable nutrition choices crucial (Ghanghas et al., 2015; Kumar & Saxena, 2024)

In India, traditional diets inherently support sustainability, but contemporary consumer preferences, shaped by socio-economic status, cultural influences, and convenience, have led to varying levels of adherence to sustainable dietary practices (Kumar et al., 2022). The increasing reliance on processed and packaged foods due to globalization and urbanization has created sustainability concerns

(Gupta et al., 2022). Individuals in late adulthood (50 years and above) play a critical role in shaping household food choices and influencing younger generations. Despite growing environmental awareness, the extent to which this age group integrates sustainable choices into daily life remains unclear. Accessibility, financial stability, health concerns, and traditional preferences influence their decision-making (Criss et al., 2020). Older adults have been found to not only possess nutrition-related knowledge but also apply it in their dietary practices, highlighting the potential of interventions targeting this group (Jeruszka-Bielak et al., 2018). Research in Poland further indicated that individuals aged 55+ engaged in sustainable food purchasing, driven by personal norms and environmental awareness (Podgórnjak-Krzykacz & Przywojska, 2025).

Sustainable nutrition involves dietary habits that support human health and environmental conservation, ensuring future resource availability (Perignon et al., 2017). Emphasizing plant-based diets can enhance sustainability by reducing carbon footprints and encouraging efficient waste management (Viroli et al., 2023). However, the dietary transition towards convenience foods contributes to a greater environmental burden, necessitating initiatives promoting sustainable eating (Jackson & Viehoff, 2016). The KAP model, widely used in public health, helps assess individuals' understanding, attitudes, and behaviors regarding sustainability, facilitating targeted interventions (Zarei et al., 2024). A study in Spain highlighted that misinformation hinders sustainable food consumption, emphasizing the necessity of structured education programs (García-González et al., 2022).

Assessing KAP can help develop sustainability-focused initiatives promoting responsible food choices. Community-supported agriculture programs encourage local and organic food consumption and contribute to environmentally conscious decisions (Vasquez et al., 2016). Despite global research emphasizing the positive influence of knowledge on sustainable practices, limited studies focus on India's older population. Understanding their KAP can inform policymakers and public health efforts, fostering long-term behavioral changes that support both human health and environmental conservation.

METHODOLOGY

The qualitative study aimed to explore the knowledge, attitudes, and practices (KAP) of sustainable nutrition among individuals in late adulthood (aged 50 and above) residing in Jaipur, Rajasthan. A purposive sampling approach was used to recruit 20 participants from diverse backgrounds, ensuring a broad

representation of perspectives on sustainable nutrition practices. Participants were selected based on their willingness to share their experiences and insights related to food choices, waste management, and environmentally conscious behaviours. The study included 20 respondents aged 50 and above from Jaipur city, representing a diverse demographic in terms of family structure, occupation, and lifestyle. All participants were graduates, belonging to middle-class to upper-middle-class socioeconomic backgrounds. The sample comprised both men and women, engaged in various professions, including teaching, business, government service, and homemaking. All respondents were married, with some living in joint families and others in nuclear households.

Data were gathered through in-depth, semi-structured interviews, allowing participants to share their perspectives openly while maintaining a structured format for comparability across responses. The interview guide included questions on key areas such as food sourcing and preferences (local vs. imported produce), waste management practices (reuse of leftovers, food wastage), food packaging and purchasing habits (use of plastic bags, preference for packaged vs. unpackaged goods) and cooking methods and sustainability (use of pressure cookers vs. open pans, energy efficiency). Each interview lasted approximately 30–45 minutes and was conducted in Hindi or English, depending on the participant's preference. The interviews were audio-recorded with consent, transcribed verbatim, and anonymized to maintain participant confidentiality.

A thematic analysis approach was employed to identify recurring patterns in participants' responses, following Braun and Clarke's (2006) six-step framework. First, familiarization with the data was achieved through repeated reading of transcripts to develop an in-depth understanding. Next, initial codes were generated by assigning meaningful labels to key concepts emerging from the data. This was followed by the identification of broader themes and sub-themes relevant to sustainable nutrition. The themes were then reviewed, refined, and validated based on their coherence and relevance. Once finalized, each theme was clearly defined and named to ensure it accurately reflected the data. Finally, the findings were structured into a coherent narrative to support the discussion (Braun and Clarke, 2006).

RESULTS

Thematic analysis yielded several significant insights into participants' sustainable nutrition knowledge, attitudes, and practices. Key themes and sub-themes, along with direct quotes from the participants, are presented below:

Table 1. THEME-1 Preference between locally grown and or imported fruits/vegetables

Sub-themes	Quotes
Freshness	"Locally grown fruits and vegetables are fresher because imported produce has to travel a long distance. So, we should consume locally grown produce." (Respondent 3, F, 57 years, Housewife) "I prefer consuming only fresh fruits and vegetables which is why I purchase local produce." (Respondent 1, M, 59 years, Teacher) "I purchase local produce because the imported produce seems stale and does not taste that good." (Respondent 18, F, 59 years, Housewife)

Table 1 contd...

Sub-themes	Quotes
Impact on health	"I purchase locally grown fruits and vegetables because the imported ones are grown with lots of pesticides which are very harmful for our health." (Respondent 9, F, 54 years, Teacher) "I prefer purchasing locally grown fruits and vegetables because I think they are grown naturally and are safe to consume."(Respondent 6, M, 58 years, Govt. Job) "I buy both imported and local produce because we get different nutrients in different types of foods so we should consume both the kinds." (Respondent 12, M, 63 years, Retired)
Money	"Local fruits and vegetables are cheaper because they don't come from far away, so no extra cost is added." (Respondent 3, F, 57 years, Housewife) "I think that purchasing local produce is better because you can get more quantity with less money." (Respondent 13, F, 62 years, Teacher)"I purchase locally grown fruits and vegetables because they are cheaper and healthier." (Respondent 8, F, 60 years, Housewife)
Quality	"Imported produce loses its nutritional content because of transport time so it is not very good for health." (Respondent 14, M, 58 years, Teacher) "If I see good quality imported fruits, I prefer buying them along with the locally grown ones too. For vegetables, I prefer locally grown ones because of my taste preferences". (Respondent 2, M, 62 years, Businessman) "I check the quality of the fruits and vegetables and based on that I buy both imported and local produce." (Respondent 12, M, 63 years, Retired)
Sustainability	"I believe there is a positive impact, of purchasing local produce, on the environment. However, I do not know how it impacts the environment." (Respondent 7, F, 57 years, Housewife) "I don't think purchasing locally grown fruits and vegetables impacts the environment in any way but I believe in supporting our local farmers." (Respondent 4, F, 59 years, Teacher) "I don't really consider the environmental impact while purchasing fruits and vegetables. I buy based on preference." (Respondent 17, F, 59 years, Govt. Job)

Table 2. THEME 2- Consumption of leftovers in the next meal

Sub-themes	Quotes
Preference of freshly cooked food over stale food	"I have heard that eating stale food is not very good for health so I don't consume leftover food." (Respondent 20, M, 64 years, Retired) "I don't like eating leftovers because I feel they lose their fresh taste." (Respondent 8, F, 60 years, Housewife) "I usually cook in the appropriate portion size. In case, any food is left, we give it away to somebody or feed it to stray animals because I and my family do not like consuming stale food." (Respondent 15, F, 53 years, Govt. Job)
Reduce food wastage	"I consume leftover food in the next meal to avoid food wastage. We keep the food in refrigerator so it doesn't get spoilt." (Respondent 10, F, 57 years, Teacher) "I feel bad throwing food because a lot of people don't even have enough food to eat. So, I prefer making new dishes out of the leftovers." (Respondent 13, F, 62 years, Teacher) "I often use the leftover breads from last night and consume them with buttermilk in breakfast. It tastes good and I don't have to throw away food." (Respondent 5, F, 50 years, Housewife)

Table 3. THEME 3- Using personal grocery bags vs polyethene sold by vendors

Sub-themes	Quotes
Durability	"The polybags are made of very thin material but our personal bags are made of strong cloth which does not tear so it is a better option." (Respondent 16, M, 56 years, Businessman) "I prefer taking my own bag for purchasing grocery items because the poly bags provided by vendors are not so durable. They don't have a good holding capacity." (Respondent 19, F, 58 years, Housewife) "I take my own bag for shopping because I can carry much more weight in it. The polythene sold by vendors cannot hold a lot of items and so we need to take multiple bags from the vendor." (Respondent 10, F, 57 years, Teacher)

Table 3 contd...

Sub-themes	Quotes
Impact on health	"I have heard about microplastics and how they can get into our food as well. So, I don't prefer the polythene bags." (Respondent 12, M, 63 years, Retired) "I always take my own cloth bag because keeping food in plastic bags is harmful for our health as the plastic goes into our body when we eat that food." (Respondent 11, F, 58 years, Housewife)" I carry my own cloth bag because I can keep it in a clean condition. The polythene provided by vendors is not clean and it can make us ill." (Respondent 5, F, 50 years, Housewife)

Table 4. THEME 4- Purchasing unpackaged (loose) grocery items

Sub-themes	Quotes
Risk of adulteration	"Unpackaged items are not safe to consume because they come in contact with dirt and insects." (Respondent 13, F, 62 years, Teacher) "I barely purchase any unpackaged item except rice that comes in a sack. I don't think that unpackaged items are safe for consumption." (Respondent 5, F, 50 years, Housewife) "I buy only packaged food items because I can be sure of the quality in that case." (Respondent 4, F, 59 years, Teacher)
Preference for traditional choices	"Packaged items have so many preservatives whereas local items don't have preservatives which is why I purchase them." (Respondent 6, M, 58 years, Govt. Job) "I prefer buying unpackaged cereals and pulses because my parents also used to do the same." (Respondent 8, F, 60 years, Housewife) "I usually buy unpackaged items because they are not processed as much as the packed ones." (Respondent 14, M, 58 years, Teacher)

Table 5. THEME 5- Opinion on the packaging used by food delivery systems

Sub-themes	Quotes
Convenience	"If companies will use paper packaging, then the food is going to spill. So, using plastic packaging is necessary for cooked food." (Respondent 2, M, 62 years, Businessman) "I think that the plastic packaging is important here because it helps in carrying the food safely." (Respondent 16, M, 56 years, Businessman) "I am in favour of the plastic packaging because it is easy to carry and dispose off as well. One does not have to wash the utensils as they are for one time use." (Respondent 7, F, 57 years, Housewife)
Impact on health	"Whenever we put hot food in plastic vessels, the plastic melts and gets mixed in the food and then we eat it. Hence, I don't like the plastic packaging used for food delivery." (Respondent 11, F, 58 years, Housewife) "I don't like the plastic packaging in which food is delivered because it negatively impacts the health. I want these food delivery systems to use biodegradable material for packaging." (Respondent 8, F, 60 years, Housewife) "While ordering food we don't have much choice but I always ask the restaurant to not send cutlery as that is also made of plastic which is bad for health. Eating food in steel vessels is the best choice." (Respondent 4, F, 59 years, Teacher)

Table 6. THEME 6- Cooking choice- Pressure cookers vs open pans

Sub-themes	Quotes
Taste preference	"Cooking food in pressure cookers makes the food mushy and I think it also causes loss of nutrients." (Respondent 13, F, 62 years, Teacher) "I prefer cooking food like rice in open pans because the taste and texture is much better." (Respondent 18, F, 59 years, Housewife) "I cook vegetables and rice in open pan because they don't get soggy and the taste is better." (Respondent 8, F, 60 years, Housewife)

Table 6 contd...

Sub-themes	Quotes
Time and energy saving	"Cooking food in a pressure cooker saves a lot of gas so it is a very economical choice." (Respondent 12, M, 63 years, Retired)
	"I prefer making food in a pressure cooker because that saves time as well as gas." (Respondent 10, F, 57 years, Teacher)
	"I prefer pressure cookers because I don't have a lot of time as I have a hectic work schedule. Cooking in pressure cookers takes lesser time compared to open pan cooking." (Respondent 17, F, 59 years, Govt. Job)

DISCUSSION

The findings reveal a mix of traditional values and practical considerations driving sustainable practices among individuals aged 50 and above in Jaipur. Many participants favoured sustainable options such as local produce, personal grocery bags, and food waste management techniques, often prioritizing health and cost over environmental considerations. This suggests that while sustainable practices are prevalent, there is limited understanding of the broader environmental impact, such as carbon footprint reduction. For instance, while some participants acknowledged the potential environmental benefits of purchasing locally grown produce, others expressed uncertainty about its actual impact, highlighting a gap in knowledge. Bridging this gap is essential, as higher levels of knowledge have been associated with more environmentally conscious decision-making, leading to choices that contribute to a lower overall environmental footprint (Hartmann et al., 2021).

Participants' reliance on cloth bags and preference for local produce reflects a traditional, sustainable approach. However, the gap in environmental awareness, particularly regarding the ecological benefits of local consumption and packaging waste, highlights the need for education initiatives targeting older populations. For example, while some participants raised concerns about the health risks of plastic packaging in food delivery, others found it convenient and necessary. This contrast highlights the need for better awareness regarding both the potential health implications of plastic and the benefits of biodegradable alternatives. Research shows that consumers who consider packaging sustainability often prioritize recyclability and biodegradability while overlooking broader environmental factors such as production and transportation impacts (Herbes et al., 2018). However, the absence of discussions on recyclability among participants in this study suggests an even greater gap in awareness, underscoring the need for targeted education on the comprehensive environmental impact of packaging choices. Well-designed initiatives can help bridge this gap by emphasizing the broader environmental significance of their everyday choices. Awareness campaigns tailored to older adults can highlight how their habits contribute to sustainability beyond personal benefits like cost savings and health. Practical interventions, such as community workshops, guided shopping experiences, and media outreach, can reinforce sustainable behaviours while introducing new strategies for minimizing environmental impact.

The diversity in cooking practices also suggests a balance between efficiency and sensory qualities. While pressure cookers are valued for energy savings, open-pan cooking remains popular for flavour. Educating this demographic on energy-efficient cooking

methods could further promote sustainability. Additionally, offering incentives like discounts on locally sourced food products could encourage greater engagement in sustainable practices. Partnering with local markets and retailers to highlight sustainable product choices through clear labelling and informational materials may further enhance awareness. Interestingly, some participants reported actively repurposing leftover food into new meals, while others avoided leftovers entirely due to concerns about freshness. These differing perspectives suggest an opportunity to promote awareness about safe storage methods and innovative ways to reduce food wastage without compromising taste and nutrition. Since food handling skills, knowledge, and access to proper infrastructure significantly influence leftover food waste behaviours, interventions that focus on improving these aspects could help encourage sustainable food management practices at home (Aloysius et al., 2023). Emphasizing the cost-saving advantages of minimizing food waste could also drive behavioural changes among older individuals.

The integration of information and communication technologies (ICT) has the potential to drive positive change by enhancing knowledge dissemination, accessibility, and adoption of sustainable practices. While direct evidence on its impact in promoting sustainable nutrition among the elderly in India remains limited, research has demonstrated its effectiveness in enhancing sustainable agricultural practices among farmers (Niranjan et al., 2023). This suggests that similar digital interventions could serve as a potential strategy to foster awareness and adoption of sustainable nutrition practices among the elderly. Online platforms, including interactive mobile applications and virtual discussion forums, can be effective tools for engaging older adults in sustainability conversations. Customized digital content, such as instructional videos and expert-led webinars, can offer accessible learning opportunities tailored to their needs. Promoting digital literacy programs may further empower them to utilize ICT for informed and sustainable decision-making.

Integrating sustainability topics into social and cultural gatherings may encourage peer-driven learning, making sustainable practices more accessible and widely adopted. Social media could help consumers connect with farmers and agribusinesses, allowing them to make informed choices, access sustainably produced food, and support local and ethical food systems (Nain, 2023). By focusing on education and engagement, these initiatives can strengthen long-term commitment to environmentally conscious food choices. Future research could examine how community-driven sustainability programs influence behavioural changes among older adults. Furthermore, collaboration between policymakers and organizations could lead to the development of tailored

sustainability programs that align with senior citizens' lifestyles and preferences. Enhancing these initiatives can foster a more inclusive and effective approach to promoting sustainable nutrition among aging populations.

CONCLUSION

This study demonstrates that individuals in late adulthood in Jaipur engage in sustainable dietary practices mainly for personal health and economic reasons, with limited awareness of their broader environmental impact. While many participants practiced sustainability through locally sourced foods and waste reduction, these behaviours were often driven by tradition rather than an understanding of sustainability principles. This gap highlights the need for targeted educational programs to improve awareness of how food choices affect the environment. The findings suggest that policies and community initiatives should focus on integrating sustainability education into nutrition programs, emphasizing both personal and environmental benefits. Encouraging informed decision-making through awareness campaigns and community-based interventions can help older adults adopt more intentional sustainable practices. Future research should explore effective strategies for enhancing knowledge and promoting sustainable behaviours among this demographic to ensure long-term benefits for both health and the environment.

REFERENCES

- Aloysius, N., Ananda, J., Mitsis, A., & Pearson, D. (2023). Why people are bad at leftover food management? A systematic literature review and a framework to analyze household leftover food waste generation behavior. *Appetite*, 186, 106577.
- Baker, P., Machado, P., Santos, T., Sievert, K., Backholer, K., Hadjikakou, M., Russell, C., Huse, O., Bell, C., Scrinis, G., Worsley, A., Friel, S., & Lawrence, M. (2020). Ultra processed foods and the nutrition transition: Global, regional and national trends, food systems transformations and political economy drivers. *Obesity Reviews*, 21(12). <https://doi.org/10.1111/obr.13126>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Criss, S., Horhota, M., Wiles, K., Norton, J., Hilaire, K. J. S., Short, M. A., & Blomquist, K. K. (2020). Food cultures and aging: a qualitative study of grandparents' food perceptions and influence of food choice on younger generations. *Public Health Nutrition*, 23(2), 221–230.
- García-González, Á., Achón, M., Krug, A. C., Varela-Moreiras, G., & Alonso-Aperte, E. (2020). Food sustainability knowledge and attitudes in the Spanish adult population: A cross-sectional Study. *Nutrients*, 12(10), 3154. <https://doi.org/10.3390/nu12103154>
- Ghanghas, B. S., Shehrawat, P. S., & Nain, M. S. (2015). Knowledge of extension professionals regarding impact of climate change in agriculture. *Indian Journal of Extension Education*, 51(3&4), 125–129.
- Guillaumie, L., Boiral, O., Baghdadli, A., & Mercille, G. (2020). Integrating sustainable nutrition into health-related institutions: a systematic review of the literature. *Canadian Journal of Public Health*, 111, 845–861.
- Gupta, N., Bhattacharjee, M., & Saha, A. (2022). Sustainability and dietary change: An analysis of Indian food consumption patterns. *Indian Journal of Applied Economics and Business*, 5(1), 85–105.
- Hartmann, C., Lazzarini, G., Funk, A., & Siegrist, M. (2021). Measuring consumers' knowledge of the environmental impact of foods. *Appetite*, 167, 105622.
- Herbes, C., Beuthner, C., & Ramme, I. (2018). Consumer attitudes towards biobased packaging—A cross-cultural comparative study. *Journal of Cleaner Production*, 194, 203–218.
- Jeruska-Bielak, M., Kollajtis-Dolowy, A., Santoro, A., Ostan, R., Berendsen, A. A. M., Jennings, A., Meunier, N., Marseglia, A., Caumon, E., Gillings, R., De Groot, L. C. P. G. M., Franceschi, C., Hieke, S., & Pietruszka, B. (2018). Are nutrition-related knowledge and attitudes reflected in lifestyle and health among elderly people? A study across five European countries. *Frontiers in Physiology*, 9. <https://doi.org/10.3389/fphys.2018.00994>
- Kumar, G. S., Kulkarni, M., & Rath, N. (2022). Evolving food choices among the urban Indian middle-class: A qualitative study. *Frontiers in Nutrition*, 9, 844413. <https://doi.org/10.3389/fnut.2022.844413>
- Kumar, A., & Saxena, S. P. (2024). Farmers' awareness and perception about climate change in the indo-gangetic plain region of India. *Indian Journal of Extension Education*, 60(4), 101–106. <https://doi.org/10.48165/ijee.2024.60418>
- Nain, M. S. (2023). Report on National Seminar 2023. *Indian Journal of Extension Education*, 59(3), 160–163.
- Niranjan, S., Singh, D. R., Kumar, N. R., Jha, G. K., Venkatesh, P., Nain, M. S., & Krishnakumare, B. (2023). Do information networks enhance adoption of sustainable agricultural practices? Evidence from northern dry zone of Karnataka, India. *Indian Journal of Extension Education*, 59(1), 86–91.
- Perignon, M., Vieux, F., Soler, L. G., Masset, G., & Darmon, N. (2017). Improving diet sustainability through evolution of food choices: Review of epidemiological studies on the environmental impact of diets. *Nutrition Reviews*, 75(1), 2–17. <https://doi.org/10.1093/nutrit/nuw043>
- Podgórnjak-Krzykacz, A., & Przywojska, J. (2025). Determinants of sustainable food purchasing behaviour in the context of the aging population in Poland. *Central European Economic Journal*, 12(59), 66–84. <https://doi.org/10.2478/ceej-2025-0005>
- Ruini, L. F., Ciati, R., Pratesi, C. A., Marino, M., Principato, L., & Vannuzzi, E. (2015). Working toward Healthy and Sustainable Diets: The “Double Pyramid Model” developed by the Barilla Center for Food and Nutrition to raise awareness about the environmental and nutritional impact of foods. *Frontiers in Nutrition*, 2. <https://doi.org/10.3389/fnut.2015.00009>
- Vasquez, A., Sherwood, N. E., Larson, N., & Story, M. (2016). Community-Supported Agriculture as a Dietary and Health Improvement Strategy: A Narrative Review. *Journal of the Academy of Nutrition and Dietetics*, 117(1), 83–94. <https://doi.org/10.1016/j.jand.2016.09.029>
- Viroli, G., Kalmpourtzidou, A., & Cena, H. (2023). Exploring benefits and barriers of plant-based diets: Health, environmental impact, food accessibility and acceptability. *Nutrients*, 15(22), 4723. <https://doi.org/10.3390/nu15224723>
- Zarei, F., Dehghani, A., Ratansiri, A., Ghaffari, M., Raina, S., Halimi, A., Rakhshanderou, S., Isamel, S., Amiri, P., Aminafshar, A., & Jarrahi, A. M. (2024). CHECKAP: A Checklist for Reporting a Knowledge, Attitude, and Practice (KAP) study. *Asian Pacific Journal of Cancer Prevention*, 25(7), 2573–2577. <https://doi.org/10.31557/apjcp.2024.25.7.2573>