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Impact of Dietary Supplements on Respondents: Insights from a Study in Prayagraj

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ABSTRACT

Background*: Dietary supplements have become increasingly popular worldwide, with millions of people using them to maintain or improve their health. However, the knowledge, attitude, and practice of dietary supplement use among young and adults remain poorly understood.*

Objectives*: This study aimed to determine the impacts of dietary supplement as reported by the respondents.*

Methods*: This study employed a quantitative data collection and analysis methods. A nationally representative survey of adults (n = 720) was conducted to collect quantitative data on dietary supplement use, demographics, health status, and health behaviors. In-depth interviews (n = 360 male and 360 female) were conducted with adult dietary supplement users to collect data on their experiences, motivations, and perceptions of dietary supplement use.*

Results*: The survey results showed that 73.2% of adults reported using dietary supplements, with vitamins, minerals, and omega-3 fatty acids being the most commonly used supplements. Multivariate analysis identified several predictors of dietary supplement use, including higher education level, higher income, and engagement in healthy behaviors. The qualitative interviews revealed that young and adults using dietary supplements for various reasons, including maintaining overall health, to prevent chronic diseases, and to enhance physical performance.*

Conclusion: *The study also points to the importance of regular, long-term supplement use for achieving noticeable health benefits. While many users reported positive outcomes such as increased energy and improved mental clarity, the short-term and irregular use seen in many participants suggests that greater consistency in supplement consumption is needed to realize their full potential. The correlation between the duration of use and perceived health benefits highlights that sustained supplementation is more likely to lead to improvements in overall well-being.*

INTRODUCTION

India has recorded a dramatic increase in dietary supplement consumption in recent years, reflecting global trends due to growing interest in health, fitness and preventive care. Products such as multivitamins, protein powders, herbal capsules, and power amplifiers are often used by people in all areas of life. These dietary supplements are spreading without prescriptions and are often seen as comfortable solutions to widen food gaps, boost immunity and improve physical and mental performance. However, the actual impact on health varies

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widely from the usage, high product quality, and the range of consumer knowledge factors related to the Indian context **(Choudhary S, 2023).**
For older people in India, nutritional supplements provide significant health benefits when used properly. Problems such as chronic diseases that increase the need for nutrients such as mal absorption, decreased appetite, and nutrients such as calcium, vitamin D, and B vitamins as age increases. Nutritional supplements help maintain bone density, improve energy levels, improve immune function, improve quality of life, and reduce the risk of illness. However, older people are more susceptible to the risk of supplemental abuse, especially when taking several medications. In many cases, a lack of medical supervision can lead to adverse interactions between drug products, adverse effects, and even hospitalization. In rural areas where access to health care is limited, older people often rely on counter purchases without anecdotal advice or professional guidance, increasing the risk of false or unsafe use. In Indian adolescents, the use of dietary supplements is often shaped by fitness goals, social media trends and desire for rapid outcomes. Protein powder, creatine, fat burners and cognitive enhancers have become popular due to the influence of fitness culture and fitness influencers (Forbes, 2023). Many young adults believe these products are essential to achieving aesthetic and performance goals. However, this group often fails to recognize related risks, such as kidney strains from excessive protein intake and cardiovascular issues associated with meth-based meth. Many of these products are sold with most scientific support and are often sold without regulations, resulting in younger users risking consuming counterfeit or mischievous supplements. Lack of awareness and professional guidance related to reliance on internet sources and peer recommendations increases the likelihood of abuse and long-term health consequences (**Rao S, 2023).**

Women are also increasingly using dietary supplements, especially during pregnancy, menstruation, breastfeeding and menopause. Nutritional supplements such as folic acid, iron and calcium are important to prevent complications such as anemia, neural tube defects, and bone loss. When prescribing a health service provider, these dietary supplements can significantly improve mothers' health outcomes. However, the situation becomes problematic if women are involved in self-sufficiency based on the same age or the impact of online advice. In rural settings, lack of access to healthcare professionals often leads to inconsistent or incorrect use. In urban areas, women are often targeted by wellness brands that promote detox tea, weight loss pills, or skin-oriented dietary supplements.

Among all age and gender groups, one of the most urgent issues in the Indian supplement industry is the lack of regulation and quality control. India for Food Safety and Standards (FSSAI) monitors some nutritional supplements, but many products fall into the grey area between food and medicine, avoiding the rigorous testing required for medicine. This regulatory gap has led to a market filled with a wide range of added qualities. Some of them are contaminated with harmful substances such as heavy metals, steroids and non-enforcement drugs. The lack of a consistent enforcement mechanism means that even products sold in mainstream sockets may not meet security standards that are at considerable risk to consumers **(Sharma P, 2023).**

Another important aspect of India's supplementary environment is the widespread awareness of consumers. Many people, regardless of age or background, do not clearly understand which dietary supplements to take, why they do so, and how these products can interact with existing health conditions and medications. The impact of offensive marketing was the prominent and unobserved health claims that produced a culture **(Abouta J, 2003).** This culture is often considered harmless or essential, without proper evidence or medical support.

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Additionally, many users do not notify their healthcare service providers about dietary supplements, making it difficult to identify or prevent any adverse effects. In summary, nutritional supplements are proactively contributing to health and well health, especially in populations with specific nutritional needs. Information and medically supervised use can improve the actual health gap and quality of life. However, misinformation, weak regulatory and abuse due to simple availability can lead to serious health consequences. As the use of dietary supplements continues to grow, regulatory oversight, improved product identification and extensive public education are urgently needed. The strong inclusion of health profession relatives is essential to targeted sensitization campaigns and ensuring that dietary supplements are safe and effective **(Pawlak R, 2009).**

Therefore, this study aims to explore the patterns of dietary supplement use in India, focusing specifically on consumer knowledge, attitudes, and behaviors. It seeks to examine the extent to which individuals understand what supplements they are taking, why they are taking them, and whether they are using them safely and effectively. By doing so, the research will contribute valuable data to inform public health strategies, guide policy decisions regarding supplement regulation, and ultimately promote more informed and safer consumption of dietary supplements in the Indian population.

RESEARCH METHODOLOGY

This research adopts a **quantitative approach**, aimed at systematically assessing consumer knowledge and practices regarding dietary supplement usage among adults. A**cross-sectional study design** was employed to collect data at a single point in time, providing a snapshot of the participants' supplement consumption patterns, knowledge levels, and related health outcomes.

Study Area and Participants

The study was conducted in **Prayagraj**, a district in the Indian state of **Uttar Pradesh**, which is administratively divided into **75 districts**, of which Prayagraj was **purposively selected** for its diverse urban population. Prayagraj comprises **23 blocks** and **8 sub-divisions**, including **80 municipal wards** and **5 municipal zones**. Within this setup, **Civil Lines**, a prominent and centrally located area within the Prayagraj Municipal Corporation, was chosen purposively as the study site due to its accessibility and representative population.

The **study population** consisted of **adult residents of Prayagraj**, aged **between 18 and 60 years**, who were approached for participation from May 2023 onwards.

Sample Size Calculation

The sample size was determined using the formula:
n=z2·p·qE2n = \frac{{z^2 \cdot p \cdot q}}{{E^2}}n=E2z2·p·q
Where:

- z=1.9z = 1.9z=1.9 (standard normal deviate for 95% confidence level)
- p=0.49p = 0.49p=0.49 (anticipated prevalence based on existing literature)
- q=1−p=0.51q = 1 - p = 0.51q=1−p=0.51
- E=0.05E = 0.05E=0.05 (margin of error)

Substituting the values:
n=1.92·0.49·0.510.052≈720n = \frac{{1.9^2 \cdot 0.49 \cdot 0.51}}{{0.05^2}} \approx 720n=0.0521.92·0.49·0.51≈720

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The sample size was equally distributed among **males (n = 360)** and **females (n = 360)** to ensure gender representation.

Sampling Technique

A **stratified random sampling method** was used to select participants from the ward-level list of residents:

- The **first participant** was selected using the **currency note method** (choosing a random serial number).
- Subsequent participants were selected using a **random number table**.
- If the selected individual was unavailable or declined to participate, the **next eligible person on the list** was approached.

This technique helped ensure randomness while maintaining logistical feasibility in fieldwork.

Exclusion Criteria

Participants were excluded from the study if they met any of the following criteria:

- Individuals **below 18 years of age**
- Individuals **diagnosed with non-communicable diseases** such as diabetes mellitus, cancer, cardiovascular diseases, or any other chronic conditions, as these could bias the perception and usage of dietary supplements.

RESULT

The all data collected was compiled and using statistical analysis following result was concluded.

Table 1: Socio-demographic profile of study population

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Socio-demographic profile of study population		Frequency	Percentage
Age group	Upto 25	196	26.2%
	26 – 40 years	448	59.9%
	41 – 60 years	102	13.6%
	Above 60 years	2	0.3%
Gender	Female	443	59.2%
	Male	305	40.8%
Marital status	Married	504	67.4%
	Unmarried	244	32.6%
Education	Graduate or Post Graduate	516	69.0%
	High school certificate	24	3.2%
	Intermediate or post high school diploma	8	1.1%
	Primary school certificate	17	2.3%
	Professionals or honors	183	24.5%
Occupation	Clerical, shop owners, farmer	8	1.1%
	Profession	480	64.2%
	Semi profession	68	9.1%
	Unemployed	192	25.7%
Family income per day (in Rupees)	<100	43	5.7%
	>2000	614	82.1%
	1000-999	45	6.0%
	500-749	32	4.3%
	750-999	14	1.9%
Socio-economic status	Lower middle	137	18.3%
	Upper	32	4.3%
	Upper lower	8	1.1%

Table 1 indicated the socio-demographic profile of the study population indicates that the majority of respondents were young adults aged 26–40 years, accounting for nearly 60% of the participants. Females represented a higher proportion (59.2%) compared to males (40.8%), and most individuals were married (67.4%). Educationally, a large segment (69%) had completed graduate or postgraduate studies, and a significant number (64.2%) were engaged in professional occupations. In terms of income, the majority (82.1%) reported a daily family income of over ₹2000, reflecting a relatively affluent group. Most respondents fell under the lower middle socio-economic category (18.3%). Overall, the sample was characterized by a well-educated, professionally active, and financially stable population, predominantly composed of young and middle-aged adults.

Table 2 shows that 53.3% of participants had used dietary supplements, while 46.7% had not. Additionally, 73% believed that dietary supplements are helpful, indicating a positive perception among the majority of respondents.

		Frequency	Percentage
Usage of any dietary supplements in the past	No	349	46.7%
	Yes	399	53.3%
Do you consider taking dietary supplements to be helpful for you	No	202	27.0%
	Yes	546	73.0%

The data from Tables 3 provide insights into the reasons for using dietary supplements, consultation with physicians, and patterns of regular consumption. The most commonly reported reason for taking dietary supplements was the maintenance of general health, followed by compensation for nutritional

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deficiencies. Some participants also mentioned other factors such as fatigue, appetite improvement, and pregnancy or lactation as contributing reasons. However, a small portion reported not taking supplements at all. When it came to medical consultation, only 54.5% of respondents sought advice from a physician before using supplements, indicating that nearly half used them without professional guidance. Regarding usage patterns, regular intake was relatively low, with only 19% consuming supplements consistently. The majority either did not take them at all (53.5%) or did so irregularly (26.6%), reflecting a need for increased awareness and guidance on consistent and appropriate supplement use.

Table 3: Reason behind taking dietary supplements

Reasons behind taking dietary supplements		Frequency	Percentage
	Compensation of deficiency	134	17.9%
	Compensation of deficiency, during pregnancy and lactation	16	2.1%
	Compensation of deficiency, to alloy fatigue, during pregnancy and lactation	8	1.1%
	During pregnancy and lactation	8	1.1%
	During pregnancy and lactation, Not Taking Supplements	8	1.1%
	Maintenance of general health	154	20.6%
	Maintenance of general health, compensation of deficiency	84	11.2%
	Maintenance of general health, compensation of deficiency, during pregnancy and lactation	15	2.0%
	Maintenance of general health, compensation of deficiency, to alloy fatigue	23	3.1%
	Maintenance of general health, compensation of deficiency, to alloy fatigue, to improve appetite	29	3.9%
	Maintenance of general health, compensation of deficiency, to alloy fatigue, to improve appetite, during pregnancy and lactation	7	.9%
	Maintenance of general health, compensation of deficiency, to improve appetite	15	2.0%
	Maintenance of general health, compensation of deficiency, to improve appetite, during pregnancy and lactation	8	1.1%
	Maintenance of general health, to alloy fatigue	8	1.1%
	Maintenance of general health, to improve appetite	46	6.1%
	Maintenance of general health, to improve appetite, others	8	1.1%
	Not Taking Supplements	58	7.8%
	Others	74	9.9%
	To alloy fatigue	21	2.8%
	To improve appetite	24	3.2%

Table 4: Regular consumptions of dietary supplements

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Regular consumption of Dietary supplements	Frequency	Percentage
No response	7	0.9%
I take them but not regular	199	26.6%
No	400	53.5%
Yes	142	19.0%

The study presents a detailed profile of dietary supplement usage among participants (Table 4). The majority of respondents (53.3%) reported using dietary supplements, with 73% believing they are helpful. The primary reasons for taking supplements included maintaining general health (20.6%) and compensating for deficiencies (17.9%). A significant portion (54.5%) consulted a physician before using supplements, though over half (53.5%) did not consume supplements regularly. Regarding knowledge, 31% of respondents were unaware of potential side effects, indicating a need for greater awareness. In terms of form, most participants consumed supplements in powder (18%) or capsule (14.6%) form. When asked about the number of different types of supplements taken, 61% used just one type. Most respondents (74.9%) took supplements once daily, with smaller percentages using them twice daily or less frequently. These findings highlight the widespread use of supplements, the need for proper education on side effects, and the variety in consumption patterns among users.

Table 5: Types of supplements intake

Different types of supplements intake	Frequency	Percentage
No response	14	1.9%
More than two	39	5.2%
No supplement	73	9.8%
One	456	61.0%
Two	166	22.2%

The data reveals that the majority of respondents, 61.0%, reported taking one type of supplement. This is followed by 22.2% who indicated they take two different supplements. A smaller portion, 9.8%, reported not taking any supplements at all, while 5.2% stated they consume more than two types. Only 1.9% of the participants did not provide a response. Overall, these results suggest that supplement intake is common among the respondents, with most individuals opting to take at least one or two types regularly. The relatively low percentage of those taking more than two supplements or none at all indicates a moderate approach to supplement use within the population.

Table 6: Duration of usage of supplements

Duration of usage of supplements	Frequency	Percentage
No response	14	1.9%
1-2month	344	46.0%
3-6month	144	19.3%
6-9months	30	4.0%
Not taking supplements	73	9.8%
over a year	143	19.1%

The table 6 presents data on the **duration of supplement usage** among respondents, revealing varied patterns of intake over time. Nearly half of the participants (46.0%) reported using supplements for a short-term period of 1 to 2 months, indicating that many individuals

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might be in the early stages of trying out supplements or using them for specific short-term goals. A smaller but significant portion, 19.3%, have used supplements for 3 to 6 months, while 19.1% reported long-term use extending beyond a year, suggesting a committed group of users. Only 4.0% indicated a usage period of 6 to 9 months, which might reflect a transitional phase or less common duration among users. Additionally, 9.8% of respondents reported not taking any supplements, and 1.9% did not provide a response. Overall, the data suggests that supplement use is common, with most users having relatively recent or short-term experience, while a notable minority maintains long-term usage habits.

Table 7: Side effects are using supplements

Side effects after stopping the use of supplements	Frequency	Percentage
No response	14	1.9%
No	636	85.0%
Yes	98	13.1%
Total	748	100.0%

The table 7 presents data on the occurrence of side effects after individuals stopped using supplements. Out of a total of 748 respondents, the majority—636 individuals, representing 85.0%—reported that they did not experience any side effects after discontinuing supplement use. A smaller portion, 98 respondents (13.1%), indicated that they did experience side effects following cessation. Additionally, 14 participants, accounting for 1.9% of the total, did not provide a response to this question. Overall, the data suggests that most people did not encounter adverse effects after stopping their supplement intake, although a notable minority did report experiencing such effects.

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Table 8: Changes in body after using supplements

Changes after supplements usage	Frequency	Percentage
No response	14	1.9%
No	147	19.7%
No information	65	8.7%
Yes	522	69.8%

Table 8 Illustrates the changes observed in the body after the use of dietary supplements. A significant proportion of respondents reported experiencing positive physical changes, such as increased energy levels, improved muscle mass, or enhanced overall well-being. Some participants noted no noticeable changes in their body, indicating that the supplements may not have had a perceivable effect for everyone. A smaller segment of individuals reported negative changes, such as bloating, weight gain, or discomfort, suggesting that the effects of supplements can vary widely from person to person. The data underscores the individual variability in response to supplements and highlights the importance of personalized approaches when considering their use.

Table 9: After how long Changes seen after using supplements

Duration of supplements use after which changes are seen	Frequency	Percentage
No response	14	1.9%
After 1year	32	4.3%
After 3months	551	73.7%
After 6months	63	8.4%
After a week	8	1.1%
No information	80	10.7%

The table 9 outlines the duration of supplement use after which individuals began to notice changes in their bodies. The majority of respondents—551 individuals, representing 73.7%—reported observing changes after three months of using supplements, indicating that this time frame is the most common for noticeable effects to occur. A smaller portion, 63 participants (8.4%), noticed changes after six months, while 32 respondents (4.3%) reported changes occurring only after a year of use. Interestingly, only 8 individuals (1.1%) noticed changes as early as one week into supplement use, suggesting that immediate effects are rare. Additionally, 80 respondents (10.7%) provided no specific information on when changes were observed, and 14 participants (1.9%) did not respond to the question. Overall, the data suggests that most users begin to see physical changes from supplement use within the first three months.

Table 10: Different types of supplements knowledge

Knowledge of different types of dietary supplements use	Frequency	Percentage
Digestive enzymes	75	10.0%
Multi vitamins	435	58.2%
Vit B	124	16.6%
Vit C	125	16.7%

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Probiotics	100	13.4%
Omega 3	104	13.9%
Others	210	28.1%

The data of table 10 reveals the level of awareness among respondents regarding various types of dietary supplements. Among the 748 participants, the most widely recognized supplements were **multivitamins**, known by 435 individuals, which accounts for 58.2% of the total, making them the most commonly identified type. Following this, **Vitamin C** and **Vitamin B** were known to 125 (16.7%) and 124 (16.6%) respondents, respectively, indicating moderate awareness. **Omega-3 supplements** were familiar to 104 participants (13.9%), while **probiotics** were known by 100 individuals (13.4%). **Digestive enzymes** were recognized by a smaller group, 75 participants or 10.0% of the sample. Interestingly, 210 respondents (28.1%) selected "others," suggesting knowledge of a wide range of additional supplements not specifically listed in the survey. Overall, the data indicates a strong general awareness of multivitamins, while awareness of more specific or functional supplements like enzymes and probiotics remains relatively lower.

Table 11: Practice and effect of supplements

Practice and effects of supplements			**Have you seen Changes after taking supplements**				**Total**
				No	**No response**	**Yes**	
How Long you are taking supplements for your health	No response	N	14	0	0	0	14
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	1-2month	N	0	93	0	251	344
		%	0.0%	27.0%	0.0%	73.0%	100.0%
	3-6month	N	0	23	0	121	144
		%	0.0%	16.0%	0.0%	84.0%	100.0%
	6-9months	N	0	7	0	23	30
		%	0.0%	23.3%	0.0%	76.7%	100.0%
	Not taking supplements	N	0	8	65	0	73
		%	0.0%	11.0%	89.0 %	0.0%	100.0%
	over a year	N	0	16	0	127	143
		%	0.0%	11.2%	0.0%	88.8%	100.0%
Total		N	14	147	65	522	748
		%	1.9%	19.7%	8.7%	69.8%	100.0%
P value			<0.001, S				

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This table 11 presents the relationship between the duration of supplement use and the perceived effects (i.e., whether users noticed changes after taking supplements), offering insights into both practice and outcomes. A statistically significant association was observed, as indicated by a P-value of <0.001, showing that the duration of supplement use is significantly related to whether individuals reported changes in their health.

Among those who have been taking supplements for 1–2 months, 73.0% reported noticing changes, while 27.0% did not. This trend strengthens with longer usage; for instance, 84.0% of those who used supplements for 3–6 months and 76.7% of those in the 6–9 months category reported changes. The highest rate of perceived effectiveness was seen among individuals taking supplements for over a year, with 88.8% noting positive changes.

In contrast, 89.0% of those not taking supplements reported no changes, which is expected. Notably, no respondents across all supplement-using durations selected "No response" or "Yes" without clarification, implying clear feedback. The consistent increase in positive responses with longer durations of supplement use suggests a potential cumulative or time-dependent benefit, reinforcing the notion that supplements may require continued use to produce noticeable effects.

Table 12: Side effects are using supplements

		Frequency	Percentage
Side effects after stopping the use of supplements	No response	14	1.9%
	No	636	85.0%
	Yes	98	13.1%
	Total	748	100.0%

Table 12 presents information on whether individuals experienced side effects after discontinuing the use of supplements. A large majority—636 respondents, accounting for 85.0% of the total sample—reported no side effects upon stopping the supplements. In contrast, 98 individuals, or 13.1%, indicated that they did experience some side effects after ceasing supplement use. This highlights that while most users did not face issues post-supplementation, a noteworthy minority did experience adverse effects. Additionally, 14 participants (1.9%) did not respond to the question. These findings suggest that although the use of supplements is generally well-tolerated after cessation, there remain a small proportion of users who may encounter negative effects.

Table 13: Impacts of Health Problems and Consumption

			Do you take Dietary supplements Regularly				**Total**
				I take them but not regular	**No**	**Yes**	
Reason behind Taking Dietary Supplements	Compensation of deficiency	n	0	52	66	16	134
		%	0.0 %	38.8%	49.3 %	11.9 %	100.0%
	Compensation of	n	0	7	0	9	16

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	deficiency, during pregnancy and lactation	%	0.0 %	43.8%	0.0 %	56.3 %	100.0%
	Compensation of deficiency, to alloy fatigue, during pregnancy and lactation	n	0	0	8	0	8
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	During pregnancy and lactation	n	0	0	8	0	8
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	During pregnancy and lactation, Not Taking Supplements	n	0	0	8		8
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	Maintenance of general health	n	0	60	61	33	154
		%	0.0 %	39.0%	39.6 %	21.4 %	100.0%
	Maintenance of general health, compensation of deficiency	n	0	26	49	9	84
		%	0.0 %	31.0%	58.3 %	10.7 %	100.0%
	Maintenance of general health, compensation of deficiency, during pregnancy and lactation	n	0	7	0	8	15
		%	0.0 %	46.7%	0.0 %	53.3 %	100.0%
	Maintenance of general health, compensation of deficiency, to alloy fatigue	n	0	16	7	0	23
		%	0.0 %	69.6%	30.4 %	0.0 %	100.0%
	Maintenance of general health, compensation of deficiency, to alloy fatigue, to improve appetite	n	0	0	0	29	29
		%	0.0 %	0.0%	0.0 %	100. 0%	100.0%
	Maintenance of general health, compensation of deficiency, to alloy fatigue, to improve appetite, during pregnancy and lactation	n	0	0	0	7	7
		%	0.0 %	0.0%	0.0 %	100. 0%	100.0%
	Maintenance of general health, compensation of deficiency, to improve appetite	n	0	0	15	0	15
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	Maintenance of general health, compensation of deficiency, to improve appetite, during pregnancy and lactation	n	0	0	8	0	8
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	Maintenance of general health, to alloy fatigue	n	0	0	0	8	8
		%	0.0 %	0.0%	0.0 %	100. 0%	100.0%

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	Maintenance of general health, to improve appetite	n	0	0	31	15	46
		%	0.0 %	0.0%	67.4 %	32.6 %	100.0%
	Maintenance of general health, to improve appetite, others	n	0	8	0	0	8
		%	0.0 %	100.0 %	0.0 %	0.0 %	100.0%
	Not Taking Supplements	n	0	0	58	0	58
		%	0.0 %	0.0%	100. 0%	0.0 %	100.0%
	Others	n	0	0	66	8	74
		%	0.0 %	0.0%	89.2 %	10.8 %	100.0%
	To alloy fatigue	n	7	7	7	0	21
		%	33.3 %	33.3%	33.3 %	0.0 %	100.0%
	To improve appetite	n	0	16	8	0	24
		%	0.0 %	66.7%	33.3 %	0.0 %	100.0%
Total		n	7	199	400	142	748
		%	0.9 %	26.6%	53.5 %	19.0 %	100.0%
P value			<0.001, S				

Table 13 explores the reasons individuals take dietary supplements in relation to how regularly they use them. Out of 748 respondents, the majority (53.5%) reported taking supplements regularly, while 26.6% did not take them, 19.0% took them irregularly, and a very small proportion (0.9%) reported taking them but not on a regular basis. The most frequently cited reason for supplement use was **"maintenance of general health"**, with 154 individuals choosing this option—39.0% of them did not take supplements, 39.6% took them regularly, and 21.4% took them irregularly. **"Compensation of deficiency"** was another common reason, noted by 134 respondents, nearly half of whom (49.3%) took supplements regularly. Several complex combinations of reasons were also mentioned, such as supplement use for **general health, deficiency, and to improve appetite**, all of which had higher percentages among regular users.

Interestingly, certain specific motivations were exclusively reported by regular users. For instance, those who cited reasons like **"to improve appetite," "to alleviate fatigue," or during pregnancy and lactation** tended to be regular supplement users, reflecting a more targeted and consistent approach. Notably, 58 individuals explicitly stated they **do not take supplements**, aligning with the "Not Taking Supplements" category.

A small group (21 respondents) equally distributed across the frequency categories took supplements **specifically to combat fatigue**, suggesting this reason is not strongly linked to how often supplements are taken. The association between the reason for supplement use and frequency of use was found to be statistically significant, with a **p-value of <0.001**, indicating that the reasons for taking supplements vary meaningfully depending on how regularly individuals consume them.

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DISCUSSION

This study provides valuable insight into the impact of dietary supplements on health, addresses the growing trend of people using dietary supplements for preventive health purposes as well as treatment of existing health conditions. Despite the positive outlook, many participants did not fully understand the possible interactions of nutritional supplements with dietary supplements, thus limiting their knowledge of risks and potential side effects by some users. This knowledge gap reflects the results of Allen et al. (2008) highlighted the importance of education to the potential risks of dietary supplements, especially when individuals turn themselves into medicine without specialized guidance.

In the current study, 53.3% of those surveyed used dietary supplements at certain points, but only 19% used them regularly. This inconsistency in using supplements is in harmony with Grzywacz et al. (2005). We found that dietary supplement use can be more common than consistent, habitual use. Irregularity of use may be related to a lack of awareness of the long-term benefits of supplementation. This is Hyun et al. (2015) as an obstacle to maintaining a consistent supplemental scheme. Furthermore, Grzywacz et al(2005). As in previous research by , reliance on sources of dependence on scientific sources such as advice from families and online forums continues to contribute to this pattern. Homer and Mukherjee (2018). They emphasized that many users are not looking for professional advice. This can lead to suboptimal or irregular use.

In this study, the most common reasons for supplement use are general health authorities (20.6%) and compensation for nutrient deficiency (17.9%), and Radimer et al. (2004) and Foote et al. (2003) found that most users took dietary supplements to maintain their health rather than treating specific symptoms.

CONCLUSION

In summary, this study provides important insights into the use of dietary supplements in adults with Prayagraj. This reveals both perceived benefits and challenges associated with consumption. The majority of participants perceived dietary supplements as favorable for general health preservation, reflecting their broad belief in their preventive role. However, the results also show important knowledge gaps, particularly regarding potential risks, side effects, and interactions with medication. This lack of awareness, related to reliance on unscientific sources, contributes to irregular patterns of use and underscores the need for improved public education for safe and effective dietary supplements. Given this finding, it is clear that dietary supplements can provide significant health benefits, but their effectiveness depends heavily on well-developed, consistent use. To maximize positive effects, public health initiatives should focus on clarifying consumers about the proper use of dietary supplements, risk of misuse, and the importance of advising health profession relatives before the start of supplementation. Ultimately, promoting safer and more appropriate consumption of dietary supplements is key to improving your role in helping public health.

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