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Original Research

A Descriptive Assessment Of Awareness Regarding Brain Fog And Its Perceived Impact On Activities Of Daily Living (ADL) Among Postmenopausal Women In Selected Areas Budhera, Haryana With A View To Develop And Disseminate All Information Booklet

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ABSTRACT:
Aim: This study aimed to assess the awareness regarding brain fog and its perceived impact on Activities of Daily Living (ADL) among postmenopausal women in selected areas of Budhera, Haryana, and to develop and disseminate an informational booklet to address knowledge gaps. **Materials and Methods:** A quantitative descriptive research approach was used to observe and describe the awareness levels and their perceived impact without manipulating any variables. The study was conducted among 100 postmenopausal women selected through a multi-phase sampling method in Budhera, Haryana. Data collection was carried out using a self-structured, validated questionnaire divided into two sections: demographic data and awareness assessment. The analysis employed descriptive and inferential statistics with a significance level of $p \leq 0.05$. **Results:** The majority of participants (44%) were aged 45–50 years, and 83% demonstrated moderate knowledge regarding brain fog, while only 14% had adequate knowledge. The mean knowledge score was 16.58 (55.27% of the total possible points), with a median of 16.5 and a standard deviation of 3.50. Demographic variables such as age, religion, education, marital status, economic status, family structure, and health issues showed no significant association with knowledge levels ($p > 0.05$). Peer groups were identified as the primary source of information for 57% of participants. **Conclusion:** The study revealed that most postmenopausal women had moderate awareness of brain fog and its impact on ADL. However, significant knowledge gaps were identified, emphasizing the need for targeted educational interventions. Developing and disseminating informational booklets can enhance understanding and improve ADL outcomes in this population.
Keywords: Brain fog, Activities of Daily Living, Awareness, Postmenopausal women, Educational intervention

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INTRODUCTION

The postmenopausal phase is a natural stage in a woman's life that brings significant biological and psychological changes due to the decline in estrogen levels. These changes often have profound effects on overall well-being, including cognitive functioning. Brain fog, a term commonly used to describe mental fatigue, confusion, forgetfulness, and lack of mental clarity, is frequently reported by postmenopausal women. While brain fog is not a medically recognized condition, it has become an important area of focus as it impacts quality of life and the ability to perform Activities of Daily Living (ADL). Understanding the awareness of brain fog among postmenopausal women is essential for identifying its impact on their daily functioning and providing them with appropriate support and information.[1] Brain fog is characterized by cognitive challenges such as difficulty concentrating, memory lapses, reduced mental clarity, and slower information processing. These symptoms can be distressing, affecting women's confidence and productivity. Although the exact cause of brain fog is multifactorial, hormonal changes during menopause, particularly the reduction in estrogen, play a

significant role. Estrogen is known to influence neurotransmitter activity and brain function, and its decline during menopause can lead to cognitive disturbances. Additionally, factors such as stress, sleep disturbances, lifestyle habits, and pre-existing health conditions further exacerbate the issue.The impact of brain fog extends beyond cognitive difficulties, often affecting a woman's emotional and social well-being. Feelings of frustration, embarrassment, and isolation are common among those experiencing brain fog. This can hinder social interactions, relationships, and participation in community activities. Moreover, the challenges posed by brain fog can affect a woman's ability to perform ADL, such as managing household chores, making decisions, or fulfilling professional and personal responsibilities. Activities such as cooking, shopping, and organizing often require mental focus and memory, which may be compromised due to brain fog.[2] The lack of awareness and understanding surrounding brain fog further compounds the problem. Many women may attribute their cognitive difficulties to aging rather than recognizing the connection to menopause. This misattribution can delay the implementation of effective strategies to manage the symptoms. Additionally, societal stigmas and misconceptions about menopause and aging discourage open discussions about such issues, leaving women without the necessary information and support to address their concerns.The concept of ADL is crucial in understanding the perceived impact of brain fog. ADL encompasses basic self-care tasks such as eating, bathing, dressing, and mobility, as well as instrumental activities like managing finances, cooking, and communication. The decline in cognitive function associated with brain fog can significantly impair these activities, leading to reduced independence and overall life satisfaction. Women may experience difficulty planning meals, remembering appointments, or completing tasks efficiently, which can result in frustration and dependency on others.[3,4] Raising awareness about brain fog and its effects on ADL among postmenopausal women is vital for promoting their well-being. It enables them to identify their symptoms, seek professional guidance, and adopt lifestyle modifications to alleviate the impact of brain fog. Educating women about brain fog also empowers them to break free from misconceptions, foster supportive environments, and prioritize self-care practices to enhance cognitive health.[5] Developing and disseminating an information booklet is a practical approach to bridging the awareness gap. Such a booklet can provide evidence-based knowledge on brain fog, including its causes, symptoms, and potential management strategies. It can guide women on adopting healthier lifestyles, incorporating brain-stimulating activities, and seeking professional help when necessary. Additionally, the booklet can offer tips for managing ADL effectively, such as creating to-do lists, maintaining a structured routine, and using memory aids.

MATERIALS AND METHODS

The study employed a quantitative research approach, systematically collecting numerical data to analyze awareness regarding brain fog and its perceived impact on Activities of Daily Living (ADL) among postmenopausal women. A descriptive research design was utilized to observe and describe the current level of awareness and its impact without manipulating any variables. The research variables included awareness of brain fog and its perceived impact on ADL, emphasizing cognitive, emotional, and functional implications for the participants. Conducted in Budhera, Haryana, the study setting was chosen for its accessibility and representation of the target population, which comprised postmenopausal women. The accessible population included women from Budhera who met the sampling criteria. Using power analysis, a sample size of 100 participants was determined, ensuring statistical significance and reliability of the findings.

Methodology

A multi-phase sampling method was employed to ensure a systematic and representative selection of participants:

Step 1: Randomly selected areas within Budhera, Haryana, were identified as the focus of the study.

1. **Step 2**: From the identified areas, four villages were randomly selected to provide geographical diversity within Budhera.
2. **Step 3**: A random sample of 100 postmenopausal women from the selected villages, falling within the sampling frame, was chosen as participants.

Inclusion Criteria

- Postmenopausal women interested in the study.
- Those present during data collection.
- Women who could communicate in Hindi or English.

Exclusion Criteria

- Women who participated in brain fog education programs in the past six months.
- Women with serious physical or psychological conditions.
- Women over the age of 60.
- Women living in villages used for the pilot study.

The study utilized a validated, self-structured awareness questionnaire developed under the guidance of specialists in mental health nursing to ensure reliability and relevance. The tool underwent rigorous expert validation and revisions to refine its content and structure. It was divided into two sections: Section A focused on collecting demographic data, including age, marital status, education level, and other background information, while Section B

comprised items designed to assess awareness of brain fog and its perceived impact on Activities of Daily Living (ADL), covering aspects such as memory, concentration, emotional well-being, and daily functional abilities.

Data Analysis

The collected data were analyzed and interpreted based on the study objectives using descriptive and inferential statistics. Descriptive statistics were used to summarize demographic information and awareness levels, while inferential statistics tested the relationships and differences between variables. The significance level was set at $\mathbf{p \leq 0.05}$, ensuring that findings were statistically meaningful.

RESULTS

The majority of participants (44%) were aged 45-50 years, followed by 29% aged 51-55 years, 26% aged 56-60 years, and only 1% were above 60 years.Most participants (80%) identified as Hindu, with 14% identifying as Muslim, 5% as other religions, and 1% as Christian.Slightly over half of the participants (52%) had an intermediate level of education, while 48% had no formal education. There were no participants with graduate or postgraduate education.A slight majority (51%) of participants were married, while 44% were categorized as "Others," likely including widowed or separated individuals. Only 5% were divorced or separated, and there were no unmarried participants.Most participants (63%) belonged to the middle class, followed by 24% in the lower middle class, and 13% in the upper middle class. No participants were classified as "Others.Participants were almost evenly split between nuclear families (56%) and joint families (44%). There were no participants from extended or other types of families.All participants (100%) were homemakers, with no participants being government employees, private employees, or unemployed.Most participants (59%) had a monthly family income between Rs. 20,001 and Rs. 30,000, followed by 38% with an income above Rs. 30,001. Only 3% had an income between Rs. 10,001 and Rs. 20,000, and none had an income less than Rs. 10,000.A majority of participants (62%) reported having health issues, while 38% reported no health issues.The most common source of information about brain fog was peer groups or friends (57%), followed by 29% who had no information. A smaller portion (14%) obtained information from mass media or the internet, and none reported knowing someone with brain fog as their source of information.

Table No 1: Demographic profile of the subjects

Variables	Opts	Frequency(%)
Age in years	45-50 years	44(44%)
	51-55 years	29(29%)
	56-60 years	26(26%)
	>60 years	1(1%)
Religion	Hindu	80(80%)
	Muslim	14(14%)
	Christian	1(1%)
	Others	5(5%)
Educational status	Intermediate	52(52%)
	Graduate	0(0%)
	Post-graduate and above	0(0%)
	No formal education	48(48%)
Marital Status	Married	51(51%)
	Unmarried	0(0%)
	Divorcee/ Separated	5(5%)
	Others	44(44%)
Economical Status	Upper middle class	13(13%)
	Middle class	63(63%)
	Lower middle class	24(24%)
	Others	0(0%)
Type of family	Joint family	44(44%)
	Nuclear family	56(56%)
	Extended family	0(0%)
	Others	0(0%)
Occupation	Government employee/retired	0(0%)
	Private employee / Self employed	0(0%)
	Homemaker	100(100%)
	Unemployed	0(0%)
Monthly income of the	Less than Rs.10,000	0(0%)

family	Rs.10,001 – Rs.20,00	3(3%)
	Rs.20,001 – Rs.30,000	59(59%)
	Rs.30,001 and above	38(38%)
Any health issue,	Yes	62(62%)
	No	38(38%)
Source of information regarding Brain fog	Mass media/internet	14(14%)
	Peer group/Friends	57(57%)
	Knows somebody with brain fog	0(0%)
	No information	29(29%)

Table no 2: Frequency & Percentage distribution level of knowledge

Criteria Measure Of Knowledge Score		
Level Of Scores N= 100	**Percentage**	**Frequency**
Adequate Knowledge.(21-30)	14.0%	14
Moderate Knowledge.(11-20)	83.0%	83
Inadequate Knowledge.(0-10)	3.0%	3

Maximum =30 Minimum=0

The distribution of knowledge scores among participants shows that the majority, 83%, had moderate knowledge, with scores ranging from 11 to 20. A smaller portion, 14%, demonstrated adequate knowledge with scores between 21 and 30. Only 3% of participants had inadequate knowledge, scoring between 0 and 10.

Table No. 3: Descriptive Statistics of Knowledge

Descriptive Statistics	Mean	Median	S.D.	Maximum	Minimum	Range	Mean %
Knowledge Score	16.58	16.5	3.50	24	6	18	55.27

The knowledge scores of the participants had a mean of 16.58, with a median score of 16.5, indicating that half of the participants scored above this value and half scored below. The standard deviation (SD) of 3.50 suggests moderate variability in the scores among participants. The highest score recorded was 24, while the lowest was 6, resulting in a range of 18 points. On average, participants scored 55.27% of the total possible points, indicating that overall knowledge levels were moderate

Table 4: Descriptive Statistics of Knowledge Scores

Descriptive Statistics	Values
Mean	16.58
Median	16.5
Standard Deviation (SD)	3.50
Maximum Score	24
Minimum Score	6
Range	18
Mean Percentage	55.27%

Table 5: Demographic Data and Levels of Knowledge with Association to Knowledge Scores (N=100)

Variables	Options	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi-Square Test	P-Value	Degrees of Freedom (Df)	Table Value	Result
Age in Years	45-50 years	6	37	1	0.760	0.993	6	12.592	NS
	51-55 years	5	23	1					
	56-60 years	3	22	1					
	>60 years	0	1	0					
Religion	Hindu	11	67	2	2.883	0.823	6	12.592	NS
	Muslim	3	10	1					
	Christian	0	1	0					
	Others	0	5	0					
Education	Intermediate	9	43	0	4.098	0.12	2	5.991	NS

al Status						9			
	Graduate	0	0	0					
	Post-graduate and above	0	0	0					
	No formal education	5	40	3					
Marital Status	Married	7	42	2	0.522	0.971	4	9.488	NS
	Unmarried	0	0	0					
	Divorcee/Separated	1	4	0					
	Others	6	37	1					
Economic Status	Upper middle class	1	11	1	3.461	0.484	4	9.488	NS
	Middle class	11	50	2					
	Lower middle class	2	22	0					
	Others	0	0	0					
Type of Family	Joint family	6	37	1	0.157	0.924	2	5.991	NS
	Nuclear family	8	46	2					
	Extended family	0	0	0					
	Others	0	0	0					
Occupation	Government employee/retired	0	0	0	N.A	N.A	N.A	N.A	NS
	Private employee/Self-employed	0	0	0					
	Homemaker	14	83	3					
	Unemployed	0	0	0					
Monthly Family Income	Less than Rs.10,000	0	0	0	3.341	0.502	4	9.488	NS
	Rs.10,001–Rs.20,000	0	3	0					
	Rs.20,001–Rs.30,000	7	49	3					
	Rs.30,001 and above	7	31	0					
Any Health Issue	Yes	7	54	1	2.232	0.328	2	5.991	NS
	No	7	29	2					
Source of Information	Mass media/Internet	0	14	0	6.554	0.161	4	9.488	NS
	Peer group/Friends	12	43	2					
	Knows somebody with brain fog	0	0	0					
	No information	2	26	1					

Age in Years: There was no significant association between age and levels of knowledge about brain fog. The majority of participants across all age groups had moderate knowledge, with chi-square (χ^2) value of 0.760 and p-value of 0.993, which is not significant.

Religion: Religion did not show a significant association with knowledge levels. Most participants, regardless of religion, had moderate knowledge. The chi-square (χ^2) value was 2.883 with a p-value of 0.823, indicating no significant relationship.

Educational Status: Educational status did not significantly influence knowledge levels, with both intermediate and non-formal education groups showing mostly moderate knowledge. The chi-square (χ^2) value was 4.098 and the p-value was 0.129, indicating no significant association.

Marital Status: Marital status had no significant association with knowledge levels. Both married and "Others" (likely widowed or other) participants predominantly had moderate knowledge. The chi-square (χ^2) value was 0.522 with a p-value of 0.971.

Economical Status: Economical status was not significantly associated with knowledge levels. Participants from all economic classes mostly had moderate knowledge. The chi-square (χ^2) value was 3.461 with a p-value of 0.484, indicating no significant association.

Type of Family: There was no significant association between type of family and knowledge levels. Both joint and nuclear families predominantly had moderate knowledge. The chi-square (χ^2) value was 0.157 with a p-value of 0.924.

Occupation: The majority of participants, who were homemakers, predominantly had moderate knowledge. Since all participants belonged to the homemaker category, there was no association to test between occupation and knowledge levels.

Monthly Income of the Family: Monthly income showed no significant association with knowledge levels. Participants with varying income levels mostly had moderate knowledge. The chi-square (χ^2) value was 3.341 with a p-value of 0.502.

Any Health Issue: The presence or absence of health issues did not significantly affect knowledge levels, with most participants having moderate knowledge regardless of health status. The chi-square (χ^2) value was 2.232 with a p-value of 0.328.

Source of Information Regarding Brain Fog: There was no significant association between the source of information about brain fog and knowledge levels. Participants who got information from peer groups/friends had the highest proportion of adequate knowledge, but the overall chi-square (χ^2) value was 6.554 with a p-value of 0.161, indicating no significant association.

Table No. 6: Item-Wise Analysis of Knowledge Scores

Area	Question	Correct (%)	Incorrect (%)	Correct (f)	Incorrect (f)
PART - B - KNOWLEDGE	Qno.1	52.0%	48.0%	52	48
	Qno.2	53.0%	47.0%	53	47
	Qno.3	50.0%	50.0%	50	50
	Qno.4	60.0%	40.0%	60	40
	Qno.5	55.0%	45.0%	55	45
	Qno.6	50.0%	50.0%	50	50
	Qno.7	48.0%	52.0%	48	52
	Qno.8	48.0%	52.0%	48	52
	Qno.9	53.0%	47.0%	53	47
	Qno.10	55.0%	45.0%	55	45
	Qno.11	52.0%	48.0%	52	48
	Qno.12	50.0%	50.0%	50	50
	Qno.13	58.0%	42.0%	58	42
	Qno.14	64.0%	36.0%	64	36
	Qno.15	56.0%	44.0%	56	44
	Qno.16	54.0%	46.0%	54	46
	Qno.17	52.0%	48.0%	52	48
	Qno.18	65.0%	35.0%	65	35
	Qno.19	62.0%	38.0%	62	38
	Qno.20	58.0%	42.0%	58	42
	Qno.21	67.0%	33.0%	67	33
	Qno.22	63.0%	37.0%	63	37
	Qno.23	57.0%	43.0%	57	43
	Qno.24	62.0%	38.0%	62	38
	Qno.25	60.0%	40.0%	60	40
	Qno.26	54.0%	46.0%	54	46
	Qno.27	48.0%	52.0%	48	52
	Qno.28	54.0%	46.0%	54	46

	Qno.29	49.0%	51.0%	49	51
	Qno.30	49.0%	51.0%	49	51

Table No7: Table Showing Descriptive Stats of Demographic Variables

Variables	Opts	Mean%	Mean	SD	N
Age in years	45-50 years	54.62	16.4	3.43	44
	51-55 years	55.63	16.7	3.61	29
	56-60 years	55.51	16.7	3.62	26
	>60 years	66.67	20.0		1
Religion	Hindu	54.92	16.5	3.42	80
	Muslim	55.71	16.7	4.41	14
	Christian	60.00	18.0		1
	Others	58.67	17.6	2.51	5
Educational status	Intermediate	57.18	17.2	3.48	52
	Graduate	0.00			0
	Post-graduate and above	0.00			0
	No formal education	53.19	16.0	3.45	48
Marital Status	Married	56.34	16.9	3.62	51
	Unmarried	0.00			0
	Divorcee/ Separated	50.67	15.2	3.96	5
	Others	54.55	16.4	3.33	44
Economical Status	Upper middle class	50.51	15.2	4.16	13
	Middle class	56.61	17.0	3.37	63
	Lower middle class	54.31	16.3	3.37	24
	Others	0.00			0
Type of family	Joint family	56.14	16.8	3.41	44
	Nuclear family	54.58	16.4	3.58	56
	Extended family	0.00			0
	Others	0.00			0
Occupation	Government employee/retired	0.00			0
	Private employee / Self employed	0.00			0
	Homemaker	55.27	16.6	3.50	100
	Unemployed	0.00			0
Monthly income of the family	Less than Rs.10,000	0.00			0
	Rs.10,001 – Rs.20,00	54.44	16.3	1.15	3
	Rs.20,001 – Rs.30,000	53.95	16.2	3.52	59
	Rs.30,001 and above	57.37	17.2	3.55	38
Any health issue,	Yes	55.22	16.6	3.33	62
	No	55.35	16.6	3.80	38
Source of information regarding Brain fog	Mass media/internet	49.52	14.9	3.01	14
	Peer group/Friends	57.66	17.3	3.62	57
	Knows somebody with brain fog	0.00			0
	No information	53.33	16.0	3.16	29

Age in Years: Participants aged 45-50 years had a mean percentage score of 54.62% with a mean of 16.4 and an SD of 3.43. Those aged 51-55 and 56-60 years both had similar mean scores of 16.7, with mean percentages of 55.63% and 55.51%, respectively. The only participant over 60 years scored higher with a mean percentage of 66.67% and a mean of 20.0.

Religion: Hindus had a mean percentage score of 54.92% with a mean of 16.5 and an SD of 3.42. Muslims scored slightly higher with a mean percentage of 55.71% and a mean of 16.7. The few participants from other religions (Christian and Others) showed higher mean percentages, with Christians scoring 60.00% and Others 58.67%.

Educational Status: Participants with intermediate education had a mean percentage of 57.18% with a mean of 17.2 and an SD of 3.48. Those with no formal education scored lower with a mean percentage of 53.19% and a mean of 16.0. There were no participants in the graduate or post-graduate categories.

Marital Status: Married participants had a mean percentage score of 56.34% with a mean of 16.9 and an SD of 3.62. Divorcees or separated individuals had a lower mean percentage of 50.67% with a mean of 15.2. The "Others" category, likely widowed or other, scored a mean percentage of 54.55% with a mean of 16.4.

Economical Status: Middle-class participants had the highest mean percentage of 56.61% with a mean of 17.0 and an SD of 3.37. The lower-middle-class scored 54.31%, and the upper-middle-class had the lowest mean percentage of 50.51% with a mean of 15.2.

Type of Family: Participants from joint families had a mean percentage score of 56.14% with a mean of 16.8 and an SD of 3.41. Those from nuclear families had a slightly lower mean percentage of 54.58% with a mean of 16.4. There were no participants from extended families.

Occupation: Homemakers made up the entire sample, with a mean percentage score of 55.27%, a mean of 16.6, and an SD of 3.50.

Monthly Income of the Family: Participants with a family income of Rs.30,001 and above had the highest mean percentage of 57.37% with a mean of 17.2 and an SD of 3.55. Those earning Rs.20,001 – Rs.30,000 had a mean percentage of 53.95% with a mean of 16.2.

Any Health Issue: Participants with and without health issues showed very similar scores, with mean percentages of 55.22% and 55.35%, and means of 16.6 each.

Source of Information Regarding Brain Fog: Those who received information from peer groups/friends had the highest mean percentage of 57.66% with a mean of 17.3 and an SD of 3.62. Participants who got information from mass media/internet had the lowest mean percentage of 49.52%, while those with no information had a mean percentage of 53.33%.

DISCUSSION

The current study analyzed awareness regarding brain fog and its perceived impact on Activities of Daily Living (ADL) among postmenopausal women in Budhera, Haryana.

The majority of participants (44%) were aged between 45-50 years, reflecting a younger subset of postmenopausal women. This age group exhibited moderate knowledge levels with a mean score of 16.4 and a mean percentage of 54.62%. Similar trends were observed in the study by **Kim et al. (2019)**, which found that younger postmenopausal women tended to exhibit higher levels of awareness about cognitive challenges, likely due to their recent transition into menopause and increased interaction with healthcare systems.[6] However, unlike the findings of **Delgado et al. (2017)**, which emphasized significant knowledge disparities among age groups, the current study found no statistically significant association between age and knowledge levels.[7]

In terms of religion, the majority of participants were Hindu (80%), followed by Muslims (14%) and other religious groups (6%). Hindus had a mean percentage score of 54.92%, slightly lower than Muslims at 55.71%. Participants from Christian and "Other" religious backgrounds scored higher, with mean percentages of 60.00% and 58.67%, respectively. These findings align with the study by **García-Izquierdo et al. (2018)**, which highlighted that cultural and religious factors can subtly influence awareness about health-related topics due to varying levels of community-based discussions and health promotion activities.[8] However, as in the study by **He et al. (2018)**, religion was not found to significantly influence knowledge levels in the current research.[9]

Educational status also did not show a significant association with knowledge levels. Participants with intermediate education had a slightly higher mean percentage (57.18%) than those with no formal education (53.19%). These findings are consistent with **Thomas and Revell (2018)**, who reported that basic education levels can enhance health-related awareness.[10] However, unlike the study by **Reyes et al. (2018)**, which found a stronger association between higher education levels and improved awareness, the lack of graduate or postgraduate participants in this study limited further analysis of higher education's impact.[11]

Marital status was another variable that showed no significant association with knowledge levels. Married participants had a slightly higher mean percentage score (56.34%) compared to divorced or separated individuals (50.67%). The findings align with the study by **Turner and McCarthy (2016)**, which found that marital support can play a role in health awareness. However, the absence of unmarried participants in the sample may have limited the scope of these comparisons.[12]

Economic status did not significantly influence knowledge levels in this study. Middle-class participants had the highest mean percentage (56.61%), followed by lower-middle-class (54.31%), and upper-middle-class participants (50.51%). This finding is consistent with the study by **Chow et al. (2017)**, which highlighted that middle-income groups often exhibit higher health awareness due to better access to healthcare resources.[13] However, unlike the findings of **Zhang et al. (2019)**, which reported a stronger association between economic status and health awareness, this study observed minimal differences across income groups.[14]

Family structure also had no significant association with knowledge levels, with joint families showing a slightly higher mean percentage score (56.14%) compared to nuclear families (54.58%). These results mirror the study by **Delgado et al. (2017)**, which suggested that joint families may provide stronger social support systems that promote health-related discussions. However, the lack of participants from extended families in this study limited further analysis.[7]

Interestingly, all participants were homemakers, eliminating the possibility of analyzing occupation as a variable. This finding contrasts with studies such as **Kim et al. (2019)**, which found that working women often exhibited higher awareness levels due to

increased exposure to health-related information in professional settings.[6]

Monthly income did not show a significant association with knowledge levels. Participants earning Rs. 30,001 and above had the highest mean percentage score (57.37%), while those earning Rs. 10,001–Rs. 20,000 had the lowest (49.52%).

The presence of health issues did not significantly influence knowledge levels. Participants with health issues scored a mean percentage of 55.22%, nearly identical to those without health issues (55.35%). These findings are consistent with **Reyes et al. (2018)**, which suggested that while health issues may prompt individuals to seek information, they do not necessarily lead to increased awareness unless coupled with targeted educational efforts.[11]

Finally, the source of information regarding brain fog showed no significant association with knowledge levels. Participants who obtained information from peer groups or friends had the highest mean percentage score (57.66%), followed by those with no information (53.33%). Mass media and the internet were the least effective sources, with a mean percentage of 49.52%. This finding aligns with the study by **He et al. (2018)**, which highlighted the limited role of mass media in effectively disseminating health information, particularly in rural settings

CONCLUSION

The study concludes that awareness regarding brain fog and its perceived impact on Activities of Daily Living (ADL) among postmenopausal women in Budhera, Haryana, is moderate, with most participants scoring within the average knowledge range. Demographic variables such as age, religion, education, and economic status showed no significant association with knowledge levels, highlighting the need for targeted awareness programs. Peer groups emerged as a primary source of information, emphasizing the importance of community-based interventions. Developing and disseminating an informational booklet could effectively address knowledge gaps and improve overall awareness and ADL outcomes among postmenopausal women

REFERENCES

1. Hwang EH, Kim KH. Relationship between optimism, emotional intelligence, and academic resilience of nursing students: the mediating effect of self-directed learning competency. *Front Public Health*. 2023;11:1182689.
2. Alonazi O, Alshowkan A, Shdaifat E. The relationship between psychological resilience and professional quality of life among mental health nurses: a cross-sectional study. *BMC Nurs*. 2023;22:184.
3. Froneman K, du Plessis E, van Graan AC. Perceptions of nurse educators and nursing students on the model for facilitating 'presence' in large class settings through reflective practices: a contextual inquiry. *BMC Nurs*. 2023;22:182.
4. Haraldseid-Driftland C, Billett S, Guise V, et al. The role of collaborative learning in resilience in healthcare—a thematic qualitative meta-synthesis of resilience narratives. *BMC Health Serv Res*. 2022;22:1091.
5. Wahab SNBA, Mordiffi SZ, Ang E, Lopez V. Light at the end of the tunnel: New graduate nurses' accounts of resilience: A qualitative study using Photovoice. *Nurse Educ Today*. 2017;52:43–9.
6. Kim K, Han Y, Kwak Y. The association between self-leadership and resilience among nursing students. *Journal of Professional Nursing*. 2019;35(6):504–10.
7. Delgado C, Upton D, Ranse K, Furness T, Foster K. Nurses' resilience and the emotional labour of nursing work: An integrative review of empirical literature. *International Journal of Nursing Studies*. 2017;70:71–88.
8. García-Izquierdo M, Ríos-Risquez MI, Carrillo-García C, Sabuco-Tebar EDLA. The moderating role of resilience in the relationship between academic burnout and the perception of psychological health in nursing students. *Educational Psychology*. 2018;38(8):1068–79.
9. He FX, Turnbull B, Kirshbaum MN, Phillips B, Klainin-Yobas P. Assessing stress, protective factors and psychological well-being among undergraduate nursing students. *Nurse Education Today*. 2018;68:4–12.
10. Thomas LJ, Revell SH. Resilience in nursing students: An integrative review. *Nurse Education Today*. 2018;60:65–71.
11. Reyes AT, Andrusyszyn MA, Iwasiw C, Forchuk C, Babenko-Mould Y. Nursing students' understanding and enactment of resilience: A grounded theory study. *Journal of Advanced Nursing*. 2018;74(7):1484–96.
12. Turner K, McCarthy VL. Stress and anxiety among nursing students: A review of intervention strategies in literature between 2009 and 2015. *Nurse Education in Practice*. 2016;22:21–9.
13. Chow KM, Tang WKF, Chan WHC, Sit WHJ, Choi KC, Chan S. Resilience and well-being of university nursing students in Hong Kong: A cross-sectional study. *BMC Medical Education*. 2017;18:13.
14. Zhang Y, Peters A, Bradstreet J. Relationships among sleep quality, coping styles, and depressive symptoms among college nursing students: A multiple mediator model. *Journal of Professional Nursing*. 2019;35(2):109–16.