



ASSESSMENT OF BMI AND KNOWLEDGE REGARDING HEART DISEASES AMONG PATIENTS

Nursing

Bindu Joseph	Assistant Professor, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (deemed to be University), Mullana, Ambala, Haryana, India.
Kanika Rai*	Professor, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (deemed to be University), Mullana, Ambala, Haryana, India. *Corresponding Author
Dr. Jyoti Sarin	Director- Principal, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (deemed to be University), Mullana, Ambala, Haryana, India.

ABSTRACT

Heart diseases including the disorders of blood vessels contribute as a leading cause for the morbidity and mortality globally. The purpose of the study was to assess BMI and knowledge regarding heart diseases among patients. A descriptive study was conducted among 100 patients. The results revealed that majority (87%) of the patients had below average level of knowledge and almost half of the patients (49%) had BMI in normal range (18.5-25 kg/m²). There was no significant association of knowledge with all selected variables except the educational status.

Conclusion: It was concluded that majority of the patients had below average level of knowledge and approximately half of the patients had BMI in normal range.

KEYWORDS

BMI, Knowledge, Heart Diseases, Patients

INTRODUCTION

An estimate of about 17.9 million deaths occur globally due to CVDs. ("Cardiovascular diseases (CVDs)," n.d.) In India, cardiovascular diseases have become the major cause of morbidity and mortality in this century. The increased prevalence of CVDs and their related risk factors is responsible for this epidemiological transition. The estimated prevalence of CVDs was 54.5 million in 2016. (Prabhakaran et al., 2018)

Adequate knowledge, awareness and appropriate health promotion behaviors about CVDs given to the general population are important in reducing the incidence of CVDs. (Tedesco et al., 2015) Thus, the World Health Organization plans to conduct awareness programmes to motivate the public regarding diet and physical activity for improving cardiovascular health behaviour. However, a deeper understanding of the underlying social context of disease is required to achieve the desired cardiovascular behaviour. (Vaidya et al., 2013) The knowledge gap regarding CVDs and the associated risk factors are the barriers in its prevention and management. Many models like health belief model have explained about about use of knowledge in health behaviours and sustained behavioural changes. (Boateng et al., 2017)

Individuals who are at risk of CVD may have elevated blood pressure, glucose, and lipids along with overweight and obesity. ("Cardiovascular diseases (CVDs)," n.d.) World Health Organization defines obesity as excessive fat that accumulate and presents it as a risk factor to health. Obesity is defined in terms of body mass index (BMI). BMI is the measured by dividing person's weight (in kilograms) with the square of one's height (in meters). BMI more than or equal to 30 kg/m² is considered as obese, 25-29.5 kg/m² as overweight. (Akil & Ahmad, 2011) It is assumed that obese patients have poorer outcomes than patients with the normal weight or BMI. (Gregory et al., 2017)

It has been shown that the CVD events take place more among overweight middle-aged men and women (37% and 28%, respectively) and obese (47% and 39%) as compared to those who maintain their BMI in normal range (32% and 22%). (Khan S. S et al., 2018).

Therefore, there is an alarming need to measure BMI of the patients considering it as the major risk factor of CVDs and to assess knowledge of the patients regarding it for the prevention of the incidence of CVDs and treatment of the diagnosed cases. With this view, a descriptive study to assess BMI and knowledge regarding heart diseases among patients attending OPD at MMIMS&R Hospital, Mullana, Ambala, Haryana. The aim of the study was to assess BMI and knowledge regarding heart diseases among patients.

MATERIALS AND METHODS

A descriptive survey design was used. Convenience sampling

technique was used to select the patients attending OPD at MMIMS&R Hospital. Biophysiological technique for assessment of BMI and Interview technique was used to collect data for assessment of knowledge regarding heart diseases among patients.

RESULTS

In our study, Less than half (36%) of patients were from the age group of 36- 50 years. More than half (53%) were males. Majority (97%) were married and 82% belonged to Urban area of living. One third (34%) of patients had passed 5th class. Less than half (45%) were homemaker. Majority of the patients did not have any edema (98%), were on irregular exercises (91%) and did not have family history of any disease (90%).

The results showed that majority (87%) of the patients had below average level of knowledge (less than 8). (Table 1) N=100

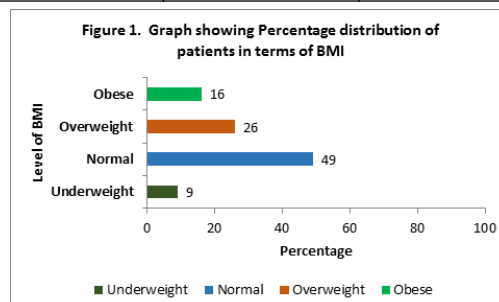
Table 1. Level of Knowledge regarding Heart diseases among patients

Level	Range of score	Percentage
Below Average	Less than 8	87
Average	8-9	4
Good	10-12	8
Very Good	13-16	1

The results further showed that almost half of the patients (49%) had BMI in normal range (18.5-25 kg/m²). (Table 2) N=100

Table 2. BMI of patients

Level	Range of score	Percentage
Underweight	<18.5 kg/m ²	9
Normal	18.5-24.5 kg/m ²	49
Overweight	25-29.5 kg/m ²	26
Obese	30 kg/m ² & above	16



The results further revealed that there was no significant association of knowledge regarding heart diseases with all other selected variables except the educational status among patients ($p=0.010^*$). Post Hoc test

with LSD correction was applied which revealed that as the education level of the patient increase, so does the knowledge. (Table 3)

N=100

Table 3. Association of knowledge scores with selected demographic characteristics among patients.

Characteristics	Mean±S.D	Df	F	p-value
Education				
Non-literate	5.00±2.66	6/93	3.009	0.010
5 th pass	4.32±2.16			
Matriculate	5.00±2.77			
12 th pass	7.00±2.00			
Diploma	3.50±2.12			
Graduate	5.33±2.07			
Postgraduate	11.00±0.00			

DISCUSSION

The findings of this study states that less than half (36%) of patients were from the age group of 36- 50 years. This finding is inconsistent with a study conducted by **Vaidya A et al** to determine the knowledge, attitude and practice/behaviour of cardiovascular health which showed that the median age (IQR) for male and female respondents was 40 (33–49) years and 38 (32–46) years, respectively. (Vaidya et al., 2013) The findings of this study states that more than half (53%) were males. This finding is consistent with a study conducted by **Joby Francis et al** to assess the existing knowledge of people regarding cardiovascular risk factors which showed that more than half (52%) were males. (Joby Francis, Josmi Jose, Joyse K. Sunny, 2014)

The findings of this study states that one third (34%) of patients had passed 5th class. This finding is inconsistent with a study conducted by **Joby Francis et al** to assess the existing knowledge of people regarding cardiovascular risk factors which showed that more than half (54%) has primary-higher secondary education. (Joby Francis, Josmi Jose, Joyse K. Sunny, 2014) Another study conducted by **Abu-Sayeeff Mirza** to assess knowledge, attitudes, and health-seeking practices (KAP) toward CAD concluded that approximately 44% had less than a high school education. (Mirza et al., 2016)

The findings of this study states that less than half (45%) were homemaker. This finding is inconsistent with a study conducted by **Abu-Sayeeff Mirza** to assess knowledge, attitudes, and health-seeking practices (KAP) toward CAD which concluded that only 30.6% were doing house work. (Mirza et al., 2016)

The findings of this study states that majority (90%) of patients did not have family history of any disease. This finding is consistent with a study conducted by **Joby Francis et al** to assess the existing knowledge of people regarding cardiovascular risk factors which showed that most of the subjects (76%) had no family history of cardiovascular disease. (Joby Francis, Josmi Jose, Joyse K. Sunny, 2014)

The findings of this study states that majority (87%) of the patients had below average level of knowledge This finding is inconsistent with a study conducted by **Joby Francis et al** to assess the existing knowledge of people regarding cardiovascular risk factors which revealed that majority of the people belongs to average level of knowledge (98%), and 1% each of the participants have poor and good level of knowledge. (Joby Francis, Josmi Jose, Joyse K. Sunny, 2014)

The findings of this study states that almost half of the patients (49%) had BMI in normal range (18.5-25 kg/m²). This finding is inconsistent with a study conducted by **N.K.Mungreiphy** to study the association between BMI, blood pressure, and age which showed that most (68.1%) of the patients have normal BMI. (Mungreiphy et al., 2011)

The findings of this study states that there was significant association of knowledge regarding heart diseases with the educational status among patients (**p=0.010***) and the knowledge was increased with the increase in education level. This finding is consistent with a study conducted by **Vaidya A et al** to determine the knowledge, attitude and practice/behaviour of cardiovascular health which showed that respondents with high school or more education and working in government or non-government offices knew more than those with less education and in other employment situations (median 17.2% vs 10.34%, p=0.001). (Vaidya et al., 2013)

CONCLUSION

In our study, majority of the patients had below average level of knowledge and approximately half of the patients had BMI in normal range. The knowledge regarding heart diseases among patients was significantly associated with their educational status.

REFERENCES

- Cardiovascular diseases (CVDs). (n.d.). Retrieved December 26, 2019, from <https://www.who.int/en/news-room/fact-sheets/detail/cardiovascular-diseases-cvds>
- Prabhakaran, D., Jeemon, P., Sharma, M., Roth, G. A., Johnson, C., Harikrishnan, S., Gupta, R., Pandian, J. D., Naik, N., Roy, A., Dhaliwal, R. S., Xavier, D., Kumar, R. K., Tandon, N., Mathur, P., Shukla, D. K., Mehrotra, R., Venugopal, K., Kumar, G. A., Dandona, L. (2018). The changing patterns of cardiovascular diseases and their risk factors in the states of India: the Global Burden of Disease Study 1990–2016. *The Lancet Global Health*, 6(12), e1339–e1351. [https://doi.org/10.1016/S2214-109X\(18\)30407-8](https://doi.org/10.1016/S2214-109X(18)30407-8)
- Tedesco, L. M. R., Di Giuseppe, G., Napolitano, F., & Angelillo, I. F. (2015). Cardiovascular diseases and women: Knowledge, attitudes, and behavior in the general population in Italy. *BioMed Research International*, 2015. <https://doi.org/10.1155/2015/324692>
- Vaidya, A., Aryal, U. R., & Krettek, A. (2013). Cardiovascular health knowledge, attitude and practice/behaviour in an urbanising community of Nepal: A population-based cross-sectional study from Jhaukhet-Duwakot Health Demographic Surveillance Site. *BMJ Open*, 3(10), 1–11. <https://doi.org/10.1136/bmjopen-2013-002976>
- Boateng, D., Wekesah, F., Browne, J. L., Agyemang, C., Agyei-Baffour, P., De-Graft Aikins, A., Smit, H. A., Grobbee, D. E., & Klipstein-Grobusch, K. (2017). Knowledge and awareness of and perception towards cardiovascular disease risk in sub-Saharan Africa: A systematic review. *PLoS ONE*, 12(12), 1–21. <https://doi.org/10.1371/journal.pone.0189264>
- Akil, L., & Ahmad, H. A. (2011). Relationships between Obesity and Cardiovascular Diseases in Four Southern States and Colorado. *J Health Care Poor Underserved*, 22(4), 61–72. <https://doi.org/10.1038/jid.2014.371>
- Gregory, A. B., Lester, K. K., Gregory, D. M., Twells, L. K., Midodji, W. K., & Pearce, N. J. (2017). The Relationship between Body Mass Index and the Severity of Coronary Artery Disease in Patients Referred for Coronary Angiography. *Cardiology Research and Practice*, 2017. <https://doi.org/10.1155/2017/5481671>
- Khan, S. S., Ning, H., Wilkins, J. T., Allen, N., Carnethon, M., Berry, J. D., Sweis, R. N., & Lloyd-Jones, D. M. (2018). Association of Body Mass Index With Lifetime Risk of Cardiovascular Disease and Compression of Morbidity. *JAMA cardiology*, 3(4), 280–287. <https://doi.org/10.1001/jamacardio.2018.0022>
- Joby Francis, Josmi Jose, Joyse K. Sunny, J. U. S. & S. V. (2014). Knowledge Regarding Cardiovascular Risk Factors Among People in South India : a Community Based Study. *Nitte University Journal of Health Science*, 4(1), 42–45.
- Mirza, A.-S., Aslam, S., Perrin, K., Curtis, T., Stenback, J., Gipson, J., & Alrabaa, S. (2016). Knowledge, attitudes and practices among patients with coronary artery disease in Dhaka, Bangladesh. *International Journal of Community Medicine and Public Health*, 3(10), 2740–2748. <https://doi.org/10.18203/2394-6040.ijcmph20163355>
- Mungreiphy, N. K., Kapoor, S., & Sinha, R. (2011). Association between BMI, Blood Pressure, and Age: Study among Tangkhul Naga Tribal Males of Northeast India. *Journal of Anthropology*, 2011, 1–6. <https://doi.org/10.1155/2011/748147>