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A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING VARICOSE VEIN AND IT'S MANAGEMENT AMONG INDUSTRIAL WORKERS IN A SELECTED INDUSTRY AT COIMBATORE

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ABSTRACT

Varicose veins are swollen, twisted veins that are visible just under the surface of the skin, typically in the legs. They occur when the valves in the veins that help blood flow toward the heart do not function properly, causing blood to pool in the veins. This pooling leads to the veins becoming enlarged and distorted. Varicose veins can cause discomfort, pain and a heavy feeling in the legs and in some cases, they may lead to more serious circulatory problems. Risk factors include age, gender, genetic, pregnancy, obesity, prolonged standing, predisposition. Symptoms range from cosmetic concerns such as visible bulging veins, to clinical issues like pain, heaviness, swelling, itching and in severe cases skin changes or venous ulcer. The study was conducted in selected industries at Coimbatore and the research method adopted was descriptive non-experimental pre-test design. As per the inclusion criteria 30 samples are selected using probability simple random sampling technique. The pre-test score of knowledge assessed by multiple choice question. Data analysed using described statistics. The result showed that 21(70%) of them moderately and adequate knowledge, 9(30%) of them had inadequate knowledge and its management of varicose veins.

KEYWORDS

Knowledge, Varicose vein and Industrial workers.

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INTRODUCTION

The health of the human being should be preserved for making nation healthy and prosperous. Healthy and study people are likely to evolve as physical and mentally strong adults and enhance the quality of human resource.

Varicose veins are the veins that have become enlarged and tortuous. Veins have left let valves prevent blood from flowing backwards. Leg muscles

pump the veins to return blood to the heart, against the effects of gravity. When veins become varicose, the leaflets of the valves no longer meet properly, and the valves do not work. This allows blood to flow backwards and they enlarge even more. Varicose veins are most common in the superficial veins of the legs, which are subject to high pressure when standing. Besides cosmetic problem, varicose veins are can be painful, especially when standing.

Millions of workers spend majority of the working day on their feet and many hours in static positions. Standing uses 20% more energy than sitting and because human bodies are not designed to stand at work, prolonged standing, can lead to tiredness, loss of concentration and increased health risks.

These risks include the swelling of feet and legs, feet and joint damage, varicose veins, heart and circulatory disorders, lower back problems and pregnancy complications (Venisha Pearl Tauro, 2015).

A study result shown that, 40 years old had a prevalence of varicose veins was 22%, 50 years old had a prevalence of varicose veins 35% and 60 years old had a prevalence of varicose veins 41% respectively (Laurikka JO, 2002). A genetic link exists, and the risk of varicose veins developing if both parents are affected is 90%; 62% risk if one parent is affected and female off spring; 25% risk if one parent is affected and male offspring; and if no parent is affected, the risk is 20% (Shiksha Sharma, 2013).

Varicose vein commonly occurs in the general population. The physical conditions during the work and conditions of employment are important risk factors that induced prevalence of varicose veins are increased. For instance prolong standing posture and physical state is irreversible in the industrial workers.

The major risk factors of varicose veins are age, gender, obesity, pregnancy, family history and prolonged standing. Among these risk factors, nurses have the two important risk factors, which are gender and prolonged standing. Women have a greater risk of developing varicose veins as compared to men. Industrial workers are at even higher risk of developing varicose veins because of their nature of

job. Industrial workers require standing almost all the time and this increases their risk of getting varicose veins later in their life.

Current statistics reveal that nearly 2.7 million people worldwide (2011), suffer from varicosities and the toll is ever increasing. Where India is concerned, experts are witnessing a growing prevalence of varicosities especially among women. Nearly, 20-15 per cent of women and 10-15 per cent of men suffer from varicose veins in India. (Express Health care, 2011).

A study on the effect of standing in the workplace will lead to the Development of chronic venous insufficiency of the superficial venous System in legs. Mechanical hydrostatic pressure generated by long Periods of standing at the work place is a major etiological factor for This condition. Varicose veins on working while standing are very Common, so it is not surprising to find a high percentage of varicose Veins amongst those who work standing up. However this does not mean They are directly related. Venous pressure in ambulatory while sitting is About 60-80mm of water, as opposed to 20mm while walking, and the Number is only slightly higher (about 100) while standing.

Chuchai L, et al, (2010) conducted an epidemiological study was carried out to establish the effect of working conditions on the appearance of Varicose Veins in Croatia. About 1,324 examines, employed in 5 highly represented groups of professional activities in Rijeka (catering, trade, light industry, heavy industry and finances. The study results revealed that varicose veins were more prevalent in trade than in office workers {odds ratio (OR =2.08; 95% confidence interval (CI =1.31-3.31}, and more prevalent in catering industries than in the office workers (OR=1.56; 95% CI=1.001-2.4. The study concluded that standing in the work place (OR=1.35; 95% CI=0.95-1.92; weight handling while working (OR=1.29; 95% CI=1.01-1.64 and working indoor (OR=1.61; 95% CI=1.02-2.53 were risk factors for varicose veins.

The personnel also pursue a near-sedentary type of work as they only stand at one place for long hours or just walk a few meters, only when necessity arises. These factors such as prolonged standing and

restricted mobility in terms of work demand pose as a health hazard. Varicose Veins are one of the most occurred occupational problems among text Industrial Workers. In this study, the investigator is interested to elicit the knowledge regarding management of Varicose Vein among industrial workers. In this view the investigator has taken up the research study and planned to improve the knowledge regarding management of Varicose vein.

Objectives of the study

To assess the knowledge regarding varicose vein and it's management among the industrial workers.

To determine the association between the level of knowledge with their selected demographic variables among industrial workers.

Hypothesis

There is a significant association between the level of knowledge with their selected demographic variables among industrial workers.

Assumption

The industrial workers are having high risk to get varicose vein due to long hours of standing during working hours.

The industrial workers may have inadequate or less knowledge regarding the management of varicose vein.

Delimitation

Only 30 samples were used.

The study are delimited to the individual who are working in the industries.

Research approach

Research approach is the most significant part of any research. The approach of research depends upon purpose of research study, which has been undertaken. The research approach adopted for the study is an evaluative approach.

Quantitative Approach – Evaluative Approach

Research design

The research design refers to the researcher's overall plan for obtaining answer to the research question and testing the research hypothesis. The research design spell out the strategies that the researcher adopts to develop information that is accurate, objective and interpretable.

Descriptive –Non experimental pre – test design is used for the study.

Study variables

In this study dependent variables refers to knowledge regarding management of varicose vein.

SETTING OF THE STUDY

In the study was conducted in selected industry at Coimbatore.

Study population

The population comprises middle aged people of age 30 - 40 years worked in selected industry at Coimbatore.

Sample size

Based on the criteria, the sample size is 30.

Criteria for selection of sample

Inclusion criteria

Middle aged people (30-40) in selected industries Coimbatore

Subjects who are willing to participate

Subjects who are able to understand and write Tamil

Exclusion criteria

The age limit of the sample is above 40years

Subjects who are not willing to participate

Subjects who are not able to understand Tamil and English

MATERIALS

Structured interview questionnaire

Limitation of the study

A study sample is only 30 samples

The age limit of the sample is 30 – 40 years

Duration of the study three weeks

Development of instruments

Research instruments also called research tool are the devices used to collect data. The following instruments were developed by the researcher for the present study.

Section A – Demographic variables of middle-aged people.

Section B – Structured knowledge questionnaire on varicose vein

The steps used for preparing tool

Instruments is the written device that research used to collect date. It includes questionnaire. The tool was developed in order to attain the objectives of the study. The researcher adopted following steps in the development of the instrument.

Review of related literature

The literature (Medical Surgical nursing book, nursing book, journals, report and articles) was referred to prepare the tools.

Questionnaire

It was prepared to assess the knowledge of middle-aged people regarding management of varicose vein.

Preparation of final draft

Final draft of the tool was prepared after consulting with the expert and research committee.

Sampling technique

Sampling technique refers to the process of selecting a portion of the population to represent the entire population-Polit and Beck (2007).

In this study, probability simple random sampling technique was done.

DESCRIPTION OF THE TOOL

The tool was organized into two sections: Section A and Section B.

Section A – Demographic variables of middle-aged people

It consists of demographic data of subjects which includes four options such as age, sex, religion, education, occupation, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, age of marriage, types of works, family history of varicose vein.

Section B – Structured knowledge questionnaire on varicose vein.

It consist of 30 closed ended multiple choice questions to assess the knowledge of samples regarding varicose vein.

Scoring procedure

A score of one was allotted to correct answer. The structured knowledge questionnaire has four alternative responses. The correct response was given score of 'one' and incorrect was scored as '0'.

Content validity

'Content validity is a judgment regarding how well the instrument represents the characteristics to be assessed. Judgments are based on prior research in the field and on the opinion of experts' - Austing Tolsma

Validity of the tool was assessed by obtaining opinion from 5 experts. One expert from the medical surgical department, four experts from nursing department. The suggestion of the experts were incorporated and the tool and intervention were finalized.

Pilot study

'Pilot study is a small-scale version of the actual study conducted with the purpose of testing potentiality'-Polit and Hungler

It was conducted to ensure validity of the tool and feasibility for giving intervention. The pilot study was conducted in Coimbatore. After getting permission from the selected industry at Coimbatore 30 middle aged people were selected by probability simple random sampling technique. A structured pre – test questionnaire was used to collect data from middle aged people during pilot study. The study was feasible, practicable and acceptable.

DATA COLLECTION PROCEDURE

Data was collected for three weeks. According to the inclusion and exclusion criteria samples were selected by probability simple random sampling technique. The purpose of the study was explained to the samples after self – introduction of the researcher. Informed verbal consent was obtained from the samples. The demographic data was collected and knowledge, of varicose vein were assessed by using structured interview questionnaire. The participants were divided into 3 groups, each group consists of mainly 10 samples. Ethical aspects were considered throughout the study.

Plan for data analysis

Data was collected and checked with middle aged people knowledge in selected industry at Coimbatore. The collected data was summarized and tabulated by utilizing descriptive statistics which include Chi square test.

Ethical consideration

Prior to the data collection, written permission was obtained from selected industry at Coimbatore district. The participants were informed about the study and verbal consent was obtained from each participant before conducting the study. The information was kept confidential.

SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

Research approach

(Quantitative Approach)



Research design

(Descriptive – Non experimental group Pre – test design)



Setting of the study

Selected industry at Coimbatore



Target population

Middle aged people



Accessible population

Middle aged people working at Coimbatore



Sample size

(30 sample)



Sampling technique

(Simple random sampling technique)



Data collection method



INTERVENTION: STRUCTURED INTERVIEW QUESTIONNAIRE



Pretest assessment of knowledge and practice regarding prevention of varicose vein



Data analysis

Descriptive and inferential statistics

Figure No.1 the middle aged group between 30 years and 46 years were included in this study. About 19(63.3%) samples belongs to age group 30-34 years. 2(6.6%) samples in the age group 35-40 years. 1(3.3%) sample in the age group of 40-45 years and 8(26.6%) samples in the age group of above 46 years.

Figure No.2 Among 30 samples, middle aged people 15(50%) were males and 15(50%) were females.

Figure No.3 Among 30 samples of middle aged people 29(96.6%) were Hindus and 1(3.3%) were Christians.

Figure No.4 Among 30 samples of middle aged people 18(60%) were graduate, 4(13.3%) were diploma, 6(20%) were high school and 2(6.6%) were middle school.

Figure No.5 Among 30 samples of middle aged people 27(90%) were Tamil, 1(3.3%) were Telugu and 2(6.6%) were others.

Figure No.6 Among 30 samples of middle aged people 18(60%) were married, 10(33.3%) were unmarried, 1(3.3%) were widow and 1(3.3%) were separated.

Figure No.7 Among 30 samples of middle aged people 18(60%) were joint family and 12(40%) were nuclear family.

Figure No.8 Among 30 samples of middle aged people 15(50%) were 10000-15000 rupees income, 3(10%) were 15000-20000 rupees income and 12(40%) were above 20000 rupees.

Figure No.9 Among 30 samples of middle aged people 16(53.3%) were 2-5 years, 6(20%) were 5-10 years, 2(6.6%) were 10-15 years and 6(20%) were above 15 years.

Figure No.10 Among 30 samples of middle aged people 14(46.6%) were 8 hours, 7(23.3%) were 10 years, 8(26.6%) were 12 hours and 1(3.3%) were more than 12 hours.

Figure No.11 Among 30 samples of middle aged people 6(20%) were regular, 4(13.3%) were irregular, 6(20%) occasional and 14 (46.6%) were nil.

Figure No.12 Among 30 samples of middle aged people 1(3.3%) were drinking and 29(96.6%) were none.

Figure No.13 Among 30 samples of middle aged people 28(93.3%) were full time job, 2(6.6%) were temporary job.

Figure No.14 Among 30 samples of middle aged people 19(63.3%) were middle income, 7(23.3%) were low income and 4(13.3%) were not interest to say.

Figure No.15 Among 30 samples of middle aged people 2(6.6%) were father side, 1(3.3%) were siblings and 27(90%) were none.

Figure No.16 Among 30 samples, in pre-test 9(30%) had inadequate knowledge; 21(70%) had moderately adequate knowledge and 0(0%) had adequate knowledge.

Table No.4 shows that in the non-experimental group, with regard to level of knowledge there was a significant association found only between the religion and education whereas age, gender, language, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, employment status, economic status and family history of varicose vein were not associated. Hence, the hypothesis H_0 was accepted for the above mentioned variables and rejected for age, gender, language, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, employment status, economic status and family history of varicose vein.

SUMMARY

This chapter dealt with data analysis and interpretation in the form of statistical value based on the objectives. Chi square test was used to find out the association between the level of knowledge among industrial workers with their selected demographic variables in experimental group.

FINDINGS OF THE STUDY

To assess the knowledge regarding varicose vein and its management among the industrial workers

A probability simple random sampling method was used to conduct the study, the study consist of 30 samples to assess the knowledge regarding varicose vein and its management among middle aged people, structured questionnaire was given to the subject to assess the knowledge of varicose vein. The result showed that 21(70%) of them moderately adequate knowledge, 9(30%) of them had inadequate knowledge and its management of varicose vein.

To determine the association between the level of knowledge with their selected demographic variables among industrial workers

The analysis revealed that there was a non significant association between the experimental group regarding the knowledge and its management with their selected demographical variables such as age, gender, language, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, employment status, economic status and family history of varicose vein. The table value was less than the obtained value of 0.05 level of significance.

Through findings the association of knowledge and management. Pre-test score with their demographic variables age, gender, language, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, employment status, economic status and family history of varicose vein.

The X^2 values of these are 5.39, 1.66, 9.73, 5.86, 0.47, 2.02, 4.49, 1.88, 8.22, 3.41, 0.86, 1.38, 4.46 respectively.

IMPRESSION

A sample of 30 middle aged people were selected by probability simple random sampling method from selected industry the findings of the study revealed that 21(70%) of them had moderately adequate knowledge, 9(30%) of them inadequate knowledge and its management of varicose vein. The analysis revealed that there was a non significant association between pre intervention knowledge and management of varicose vein among middle aged peoples with the selected demographical variables such as age, gender, language, marital status, type of family, monthly income, year of experience, duration of duty hours, habits of doing exercise, bad habits, employment status, economic status and family history of varicose vein. The value as less than the obtained values and 0.05 level significance.

MAJOR FINDINGS OF THE STUDY

Findings related to the demographic characteristic of the sample

Majority of the middle aged (63.3%) were in the group of 30-34 years.

Based on the gender the male (50%) and the female (50%) were included in the study.

Based on the religion majority of (96.6%) the people are Hindu.

In relation to the educational status, most of the clients (60%) were graduates. 6.5.1.5 Majority of the people (90%) were Tamil.

According to the marital status (60%) were married and (33.3%) were unmarried.

According to the type of the family (60%) were joint family.

According to family monthly income majority of the middle aged (50%) people belongs to 10000-15000.

Based on the year of experience (53.3%) have 2-5 years of experience.

According to the duration of duty hours (46.6%) have the 6 hours of duty.

In relation to the habits of doing exercise (46.6%) have no habits of doing exercise.

Based on the bad habits (96.6%) have no bad habits.

According to the employment status (93.3%) have the full time job.

According to the economic status (63.3%) have the middle income.

According to the family history of varicose vein (90%) have no history of varicose vein.

Findings related to the pre- test level of knowledge

Pre- test score of the study revealed that the majority 21(70%) had moderately adequate knowledge, 9 (30%) had inadequate knowledge and 0 (0%) had adequate knowledge.

IMPLICATION OF NURSING

Nursing service

Nurses works in the industry plays a vital role in identifying the risk factors and life style modification needed regarding varicose vein.

They can teach the middle-aged people about the need of resting, prevalence and complication of varicose vein.

They can assess the knowledge regarding varicose vein among the middle-aged people.

NURSING EDUCATION

The nurse should focus on their attention in nursing education and conduct health education programmes. The middle-aged people are given opportunity to identify the modifiable risk factors and thus control the progress of the disease.

In the industry, certain departments like surgical clinics can enable the student to utilize and teach the middle-aged people about the varicose vein.

NURSING ADMINISTRATION

Nurse administrator have the responsibility to increase the nurse's knowledge in early identification and management of varicose vein, she can organize in service education programmes. She has the responsibility to control and prevent the complication of varicose vein.

She also has the responsibility to utilize the research findings related to varicose vein. She would conduct regular meetings and workshop for the nurses to make them aware of latest research findings related to varicose vein and encourage them to implement the program based new data in day-to-day practice.

NURSING RESEARCH

The essence of the research is to build up a body of knowledge in nursing as an evolving profession. This study can be effectively utilized by the emerging researchers.

The study can be a baseline for the further studies to build upon

RECOMMENDATION

Present study could be conducted in selected industry at Coimbatore.

Similar study can be conducted in other different social settings

This study can be replicated on large sample there by findings can be generalized large population.

LIMITATIONS

A study sample is only 30 samples

The age limit of the sample is 30 – 40 years

Duration of the study three weeks.

Scoring interpretation**Table No.1: Level of knowledge**

S.No	Interpretation	Percentage	Range of score
1	Adequate	76 – 100%	21 – 30
2	Moderately adequate	51 – 75%	11 – 20
3	Inadequate	< 50%	0 – 10

Section – A**Table No.2: Frequency and percentage distribution of demographic variables**

S.No	Demographic variables	Samples	Percentage
1	Age		
	a) 30 – 34 years	19	63.3%
	b) 35 – 40 years	2	6.6%
	c) 40 – 45 years	1	3.3%
	d) above 46 years	8	26.6%
2	Gender		
	a) Male	15	50%
	b) Female	15	50%
	c) Transgender	0	0%
	d) Others	0	0%
3	Religion		
	a) Hindu	29	96.6%
	b) Muslim	0	0%
	c) Christian	1	3.3%
	d) Others	0	0%
4	Education		
	a) Graduate	18	60%
	b) Diploma	4	13.3%
	c) High school	6	20%
	d) Middle school	2	6.6%
5	Language		
	a) Tamil	27	90%
	b) English	0	0%
	c) Telugu	1	3.3%
	d) Others	2	6.6%
6	Marital status		
	a) Married	18	60%
	b) Unmarried	10	33.3%
	c) Widow	1	3.3%
	d) Separated	1	3.3%

7	Type of family		
	a) Joint	18	60%
	b) Nuclear	12	40%
	c) Single	0	0%
	d) Extended	0	0%
8	Monthly income		
	a) 5000 – 10000	0	0%
	b) 10000 – 15000	15	50%
	c) 15000 – 20000	3	10%
	d) Above 20000	12	40%
9	Year of experience		
	a) 2 – 5 years	16	53.3%
	b) 5 – 10 years	6	20%
	c) 10 – 15 years	2	6.6%
	d) above 15 years	6	20%
10	Duration of duty hours		
	a) 8 hours	14	46.6%
	b) 10 hours	7	23.3%
	c) 12 hours	8	26.6%
	d) More than 12 hours	1	3.3%
11	Habits of doing exercise		
	a) Regular	6	20%
	b) Irregular	4	13.3%
	c) Occasional	6	20%
	d) Nil	14	46.6%
12	Bad habits		
	a) Drinking	1	3.3%
	b) Smoking	0	0%
	c) Tobacco	0	0%
	d) None	29	96.6%
13	What is your employment status		
	a) Full time job	28	93.3%
	b) Part time job	0	0%
	c) Temporary job	2	6.6%
	d) Not interest to say	0	0%
14	Economic status		
	a) High income	0	0%
	b) Middle income	19	63.3%
	c) Low income	7	23.3%
	d) Not interest to say	4	13.3%
15	Family history of varicose vein		
	a) Father side	2	6.6%
	b) Mother side	0	0%
	c) Siblings	1	3.3%
	d) None	27	90%

SECTION -B

Table No.3: Distribution of middle aged people according to their pre-test knowledge of varicose vein
Level of knowledge

S.No	Interpretation	Frequency	Percentage
1	Adequate	0	0%
2	Moderately Adequate	21	70%
3	Inadequate	9	30%

Table No.4: Association between the level of knowledge with their selected demographic variable among industrial workers N=30

S.No	Demographic variable	Experimental group n=30		
		Chi square X ²	Degree of freedom	Table value
1	Age	5.39	6	12.59
2	Gender	1.66	6	12.59
3	Religion	75.27*	6	12.59*
4	Education	87.41*	6	12.59*
5	Language	9.73	6	12.59
6	Marital status	5.86	6	12.59
7	Type of family	0.47	6	12.59
8	Monthly income	2.02	6	12.59
9	Year of experiance	4.49	6	12.59
10	Duration of duty hours	1.88	6	12.59
11	Habits of doing exercise	8.22	6	12.59
12	Bad habits	3.41	6	12.59
13	Employment status	0.86	6	12.59
14	Economic status	1.38	6	12.59
15	Family history of varicose vein	4.46	6	12.59

*Significant

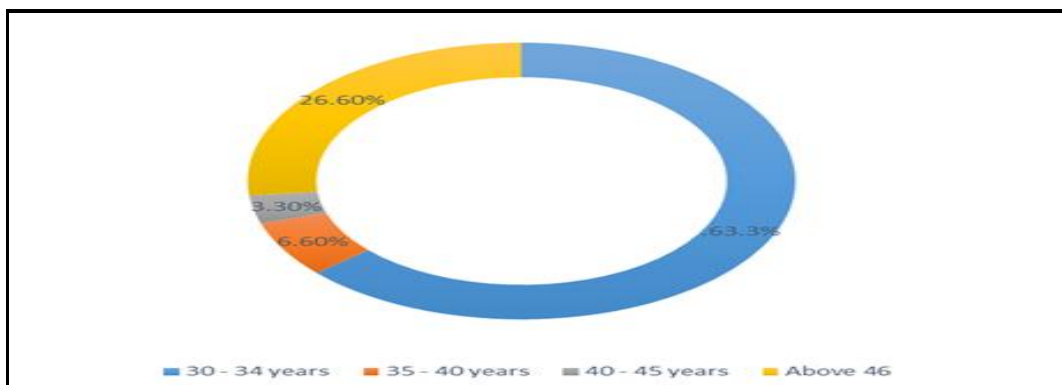


Figure No.1: Frequency and percentage distribution of demographic variables-Age

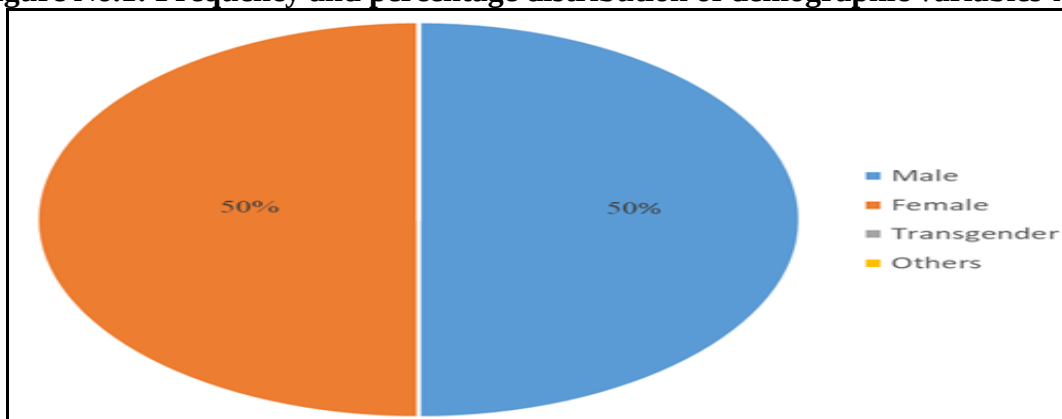


Figure No.2: Frequency and percentage distribution of demographic variables- Gender

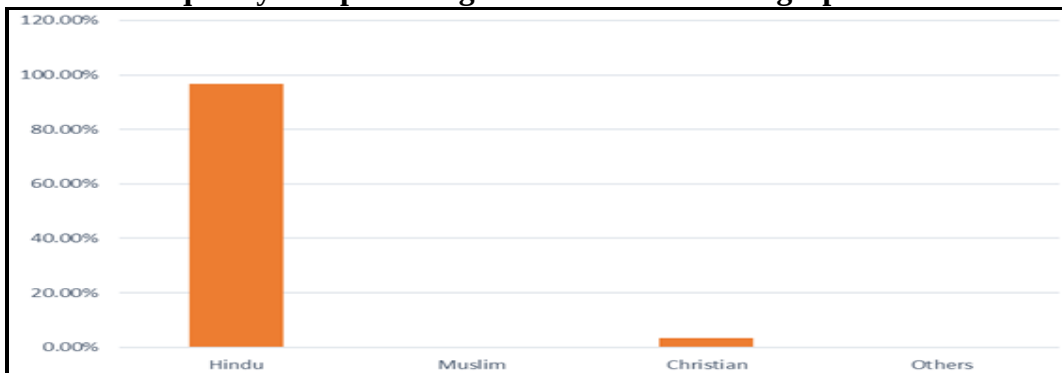


Figure No.3: Frequency and percentage distribution of demographic variables-Religion

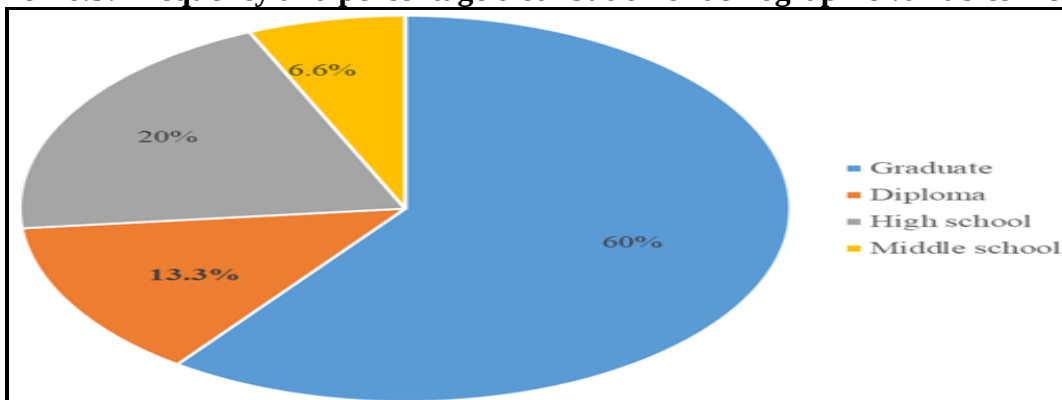


Figure No.4: Frequency and percentage distribution of demographic variables-Education

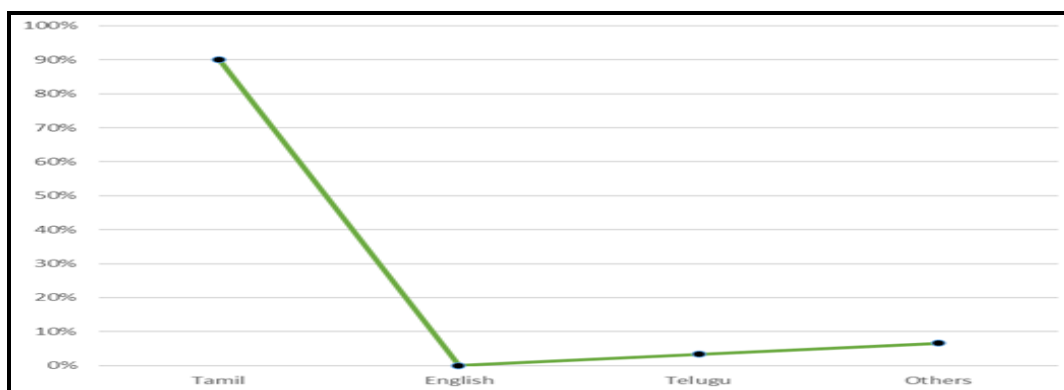


Figure No.5: Frequency and percentage distribution of demographic variables-Language

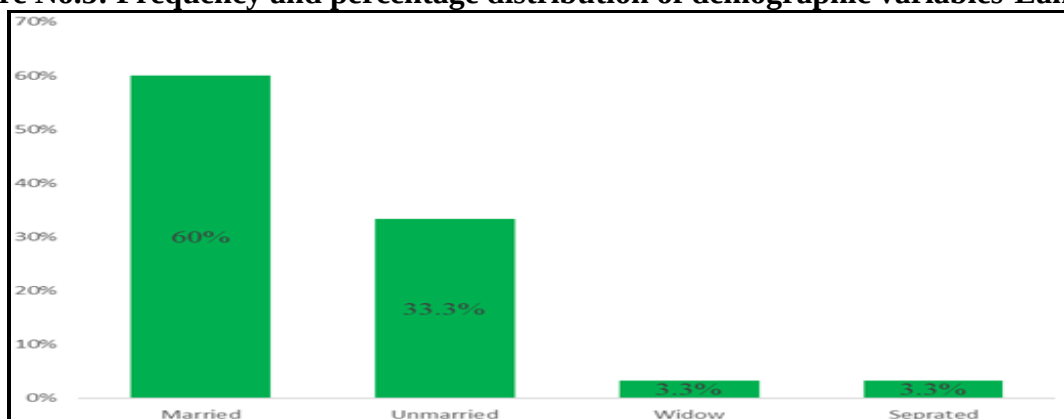


Figure No.6: Frequency and percentage distribution of demographic variables-Marital status

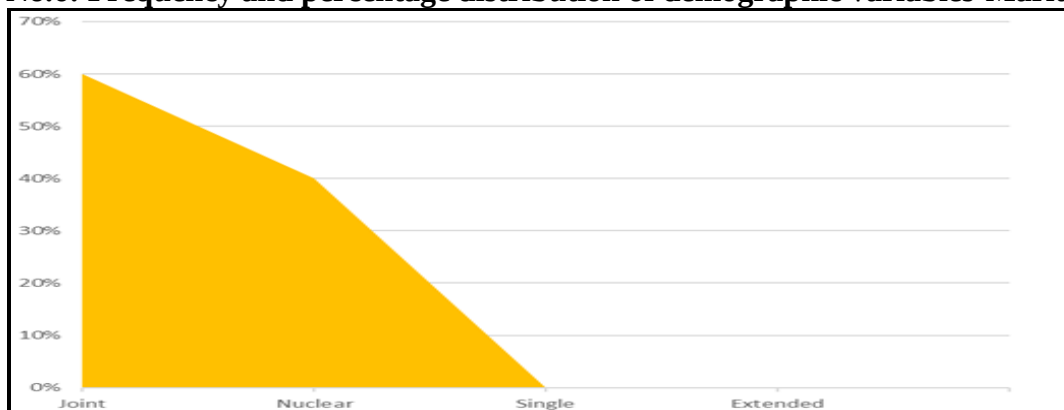


Figure No.7: Frequency and percentage distribution of demographic variables-Type of family

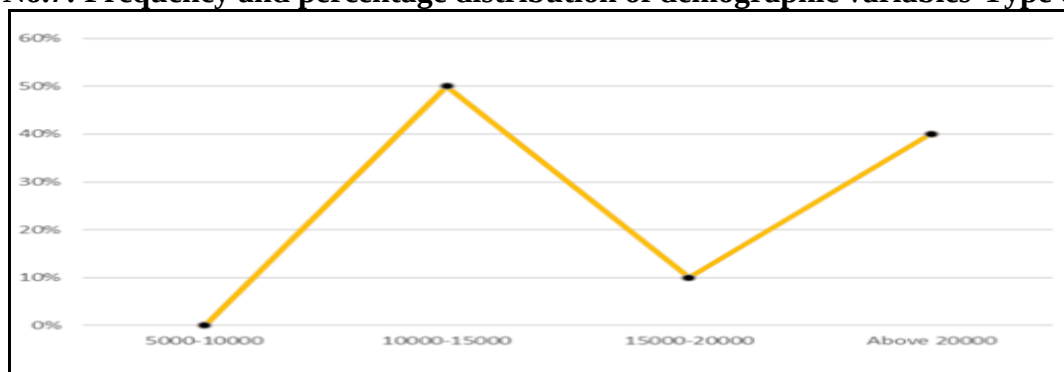


Figure No.8: Frequency and percentage distribution of demographic variables- Monthly income

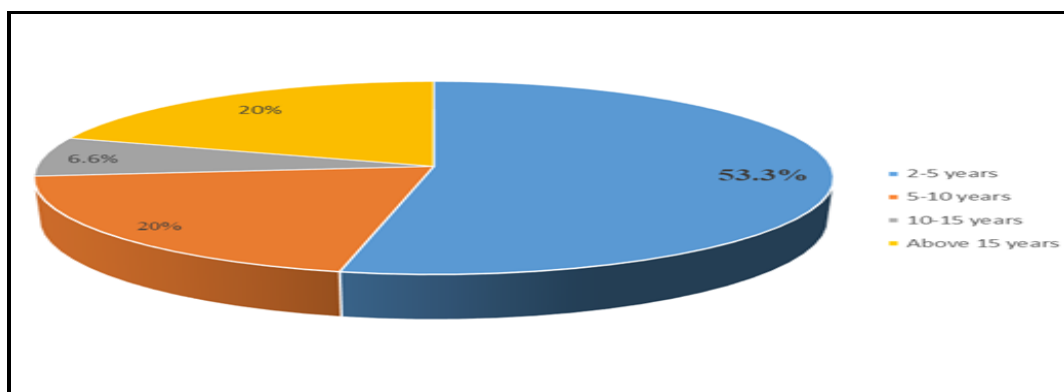


Figure No.9: Frequency and percentage distribution of demographic variables- Year of experience

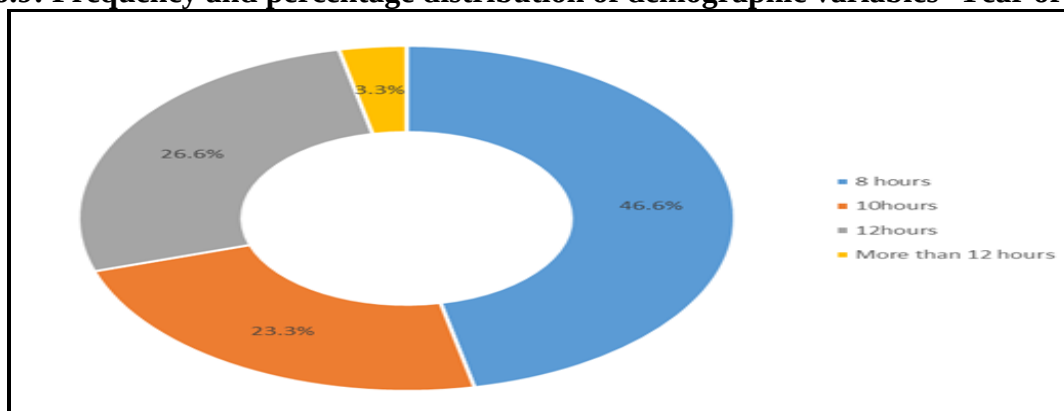


Figure No.10: Frequency and percentage distribution of demographic variables- Duration of duty hours

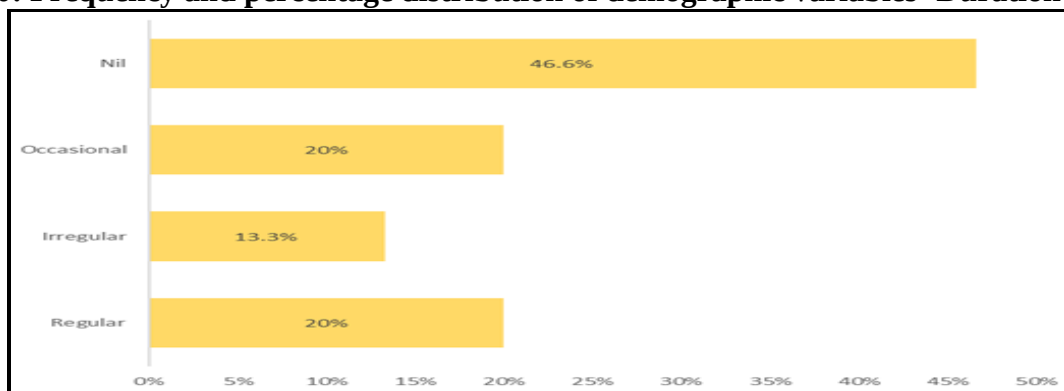


Figure No.11: Frequency and percentage distribution of demographic variables-Habits of doing exercise

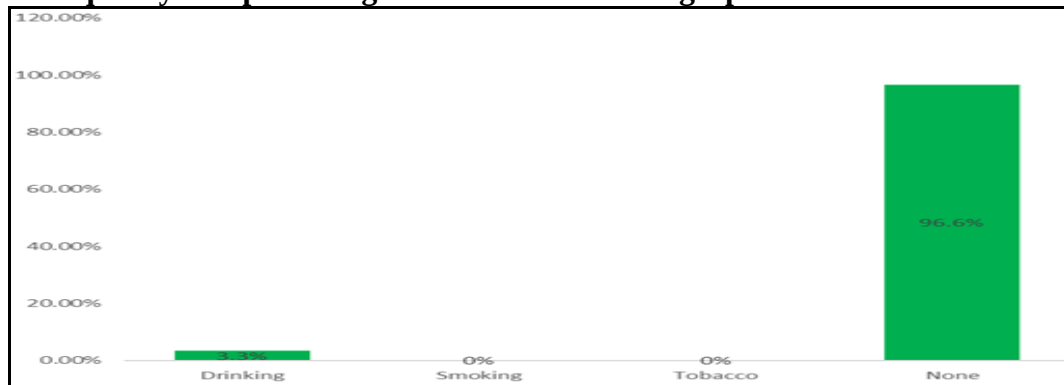


Figure No.12: Frequency and percentage distribution of demographic variables- Bad habits

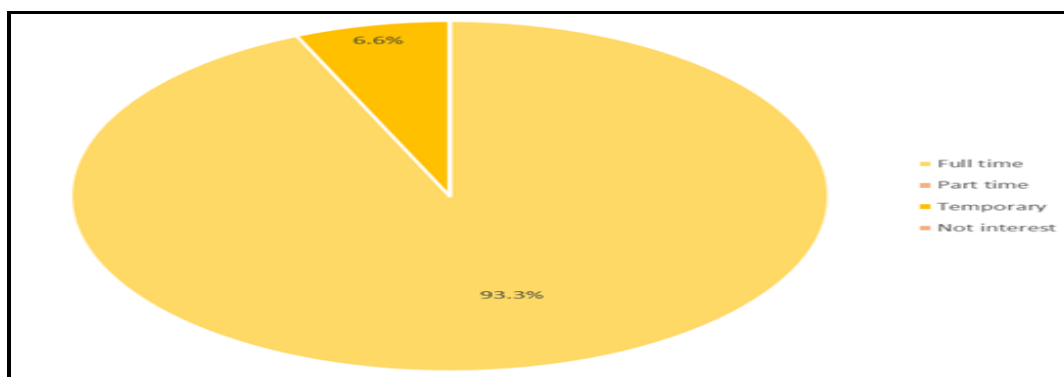


Figure No.13: Frequency and percentage distribution of demographic variables-Employment status

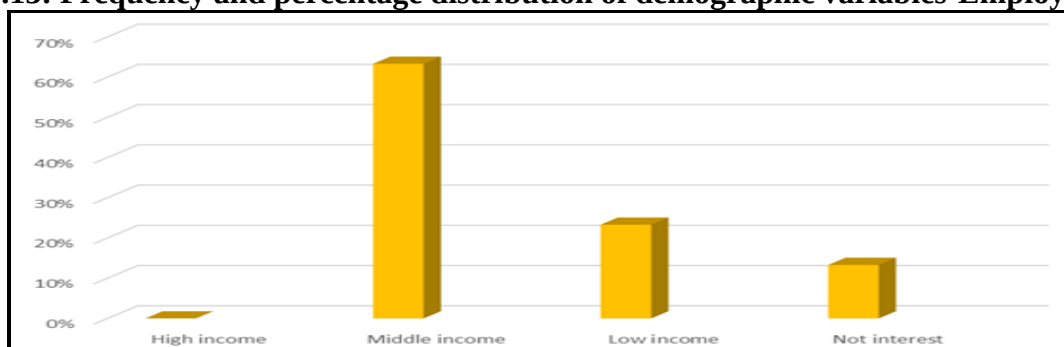


Figure No.14: Frequency and percentage distribution of demographic variables- Economic status

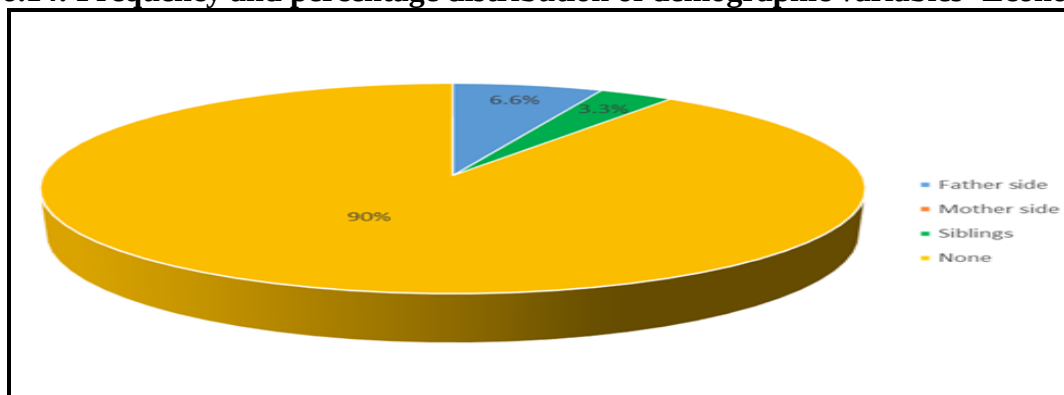


Figure No.15: Frequency and percentage distribution of demographic variables-Family history of varicose vein

LEVEL OF KNOWLEDGE

Pre-test knowledge

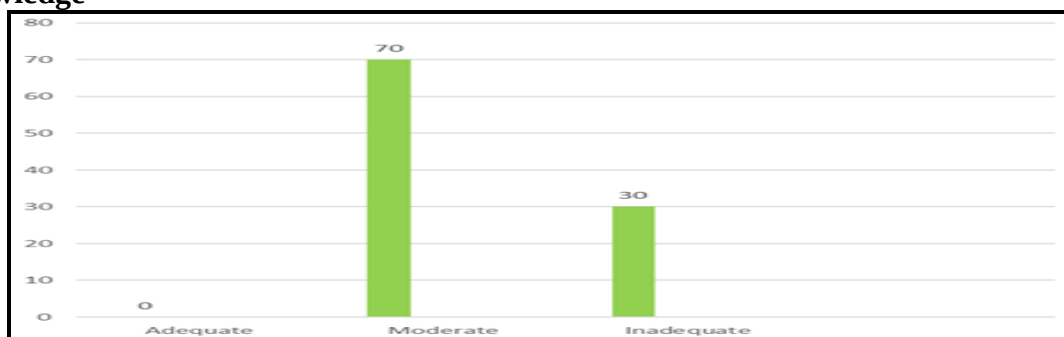


Figure No.16: Distribution of middle aged people according to their pre-test knowledge of varicose vein

CONCLUSION

Based on the findings of the study the following conclusions were drawn. They showed that the majority of the middle-aged people in the industry have moderately adequate knowledge on varicose vein and its management.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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