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REGIONAL ANESTHESIA AS A RISK FACTOR OF LOW BACK PAIN IN POSTPARTUM WOMEN

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Abstract:

Background: *Regional anesthesia includes both spinal and epidural anesthesia is being used to relieve labor pain and in C-section. It is a very convenient and suitable choice for surgeons, obstetricians, gynecologists and anesthesiologist. But this may have few complications more commonly low back pain, hypotension, nausea/vomiting, paralysis of respiratory muscles and urinary retention. Regional anesthesia is a central nerve blockade technique which involves the injection of an anesthetic given locally into the lower region of the spine, thus blocking the painful impulses that are generated because of contraction of uterus during labor*

Objective: *To determine the risk factor of low back pain in postpartum women.*

Material and Methods: *Retrospective cohort study was conducted via questionnaires from postpartum females of DHQ Gujranwala. These females fall in age group 21-40 years. Convenient sampling technique was used. Sample size of 138 females was taken. Numeric pain rating scale and Roland Morris low back pain and disability questionnaire was used.*

Result: *Our study resulted that the 23.9% women had mild pain, 42.0% had moderate pain and 34.1% women had severe postpartum low back pain.*

Conclusion: *It is concluded that regional anesthesia is a major risk factor for backache in postpartum women of Gujranwala Pakistan. Some women experience severe backache in ADLs. Women experience backache 52.9%, hypotension 25.4%, nausea/vomiting18.8%, paralysis of respiratory muscles 0.7% and urinary retention 2.2%.*

Key Words: *regional anesthesia, postpartum low back pain, DHQ Gujranwala, C-section.*

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INTRODUCTION:

Regional anesthesia (spinal or epidural) is now a very convenient and suitable choice for surgeons, gynecologists, obstetricians and anesthesiologists over a general anesthesia. As it takes less care as compared to general anesthesia(1). Regional anesthesia is a central nerve blockade technique which involves the injection of an anesthetic given locally into the lower region of the spine, thus blocking the painful impulses that are generated because of contraction of uterus during labor(2). Epidural analgesia effectively relieves pain during labor and delivery(3). Fewer complications of anesthesia leads to better and quick recovery of the patient. Less side effects makes patient return to activities of daily livings in very few days. But with all these positive effects regional anesthesia does come with main problem that is lower backache. Long term backache is reported more commonly due to regional anesthesia in labor. Women with anesthesia reported backache more than the women without anesthesia in labor(4). Women with spinal anesthesia also reported other complications like hypotension very commonly. Hypotension associated with spinal anesthesia reported that spinal anesthesia does increases the risk of hypotension in postpartum women. Incidence of hypotension was 52.6%(5).

Regional anesthesia is a common mode of anesthesia for caesarean section. Regional anesthesia is associated with a incidence of chronic pain than general anesthesia. Chronic pain after caesarean section causes functional disability. Persistent pain was also found almost 9.2% incidence of chronic pain after caesarean section under spinal anesthesia (6). Backache and hypotension is the most common complication of regional anesthesia(7). Regional anesthesia is used very commonly over the past 35 years for pain relief in labor Women receiving spinal anesthesia during labor and delivery were almost twice as likely to develop back pain after delivery as women given spinal anesthesia(8).Now it is used as an anesthesia alternative and most preferred form of anesthesia for C-section. MacArthur et al first suggested that spinal analgesia might be associated with low back. women who had anesthesia were more likely to suffer backache Some women had serious side effects (severe hypotension) and other experience less serious side effects (headache, shivering) during spinal anesthesia(9). Association between the use of spinal anesthesia pain relief for labor and long term low back pain is found very commonly(10).There have been several studies into back pain and spinal anesthesia. The benefits of spinal anesthesia in terms of pain relief are well recognized. Ron butler and john fuller concluded that back pain following epidural anesthesia was common(11).

CJ HOWELL et al 2001 concluded that for pain relieving concerns use of epidural anesthesia is widespread. Benefit is pain relief at side but data suggested that epidural block increased the incidence of chronic backache, chronic headache, bladder problem, tingling, numbness and sensory confusion.

RON BUTLER AND JOHN FULLER et al 1998 conducted research that back pain following anesthesia is common. Incidence of back pain was 30.7% in 90% follow-up women.

ALISON J MACARTHUR et al 1997 investigated that the prevalence of low back pain in women is higher than the men suggesting that pregnancy may influence the development of low back pain. Postpartum back pain associated with pregnancy, epidural anesthesia may represent a risk marker rather than a risk factor.

SALLY WEEKS et al 1995 concluded that women received epidural anesthesia during labor and delivery was twice as likely to develop back pain after delivery as women not given epidural anesthesia. Back pain was measured with a pain score (numeric pain rating scale), and degree of interference with daily activities. The relation between epidural anesthesia and postpartum low back pain was common.

ROBIN RUSSELL AND COLLEAGUES et al 1993 observed that epidural analgesia among women who had received epidural anesthesia reported backache was 18.6%.

C MACAUTHUR et al 1990 conducted that epidural anesthesia has been widely used over the past 20 years for pain relief in labor and more recently as an alternative and preferred form of anesthesia for c-section. A very small portion of women have serious side effect i-e total spinal block, severe hypotension, accidental intravenous injection, headache and most of all low backache. Long term backache after childbirth was commonly reported in this population. Almost a quarter of the women (23.3%) reported backache occurring within three months of their delivery and persisting for more than six weeks.

METHODOLOGY:

Study design: Retrospective cohort study

Study setting: DHQ hospital Gujranwala

Sample size: 138 postpartum females

Inclusion criteria:

- Age group 21-40 years
- Postpartum women.

Exclusion criteria:

- Females having history of back pain before pregnancy.
- Females having any systemic issues.
- Females having history of any trauma or tumor.
- Females having arthritis of any type or any other structural abnormality.

MATERIALS:

Data collection tool:

- Numeric pain rating scale
- Roland Morris low back pain and disability questionnaire

Data collection procedure:

A study was conducted which was very helpful for taking information about women who had C-section under regional anaesthesia. It was conducted in DHQ hospital Gujranwala. Also telephone calls were made for collecting the data. An informed consent was taken from females by telling the aims and objectives of the study. Then females were selected on the basis of convenient sampling technique. Firstly, self constructed questionnaire was recorded with the demographic information such as age, gender and occupation. Age group of 21-40 years of female were included. Then back pain was recorded using **numeric pain rating scale** and **Roland Morris low back and disability questionnaire**.

STATISTICAL ANALYSIS:

- Data was collected SPSS 16. (Statistical package for social sciences)
- Data was demonstrated in the forms of bar charts and pie charts.

RESULTS:

Figure 1: frequencies/percentage distribution of age
Figure 2: percentage/frequency distribution of pregnancy either first or not
Figure 3: Percentage/Frequency Distribution Of Complication Occurred After Anesthesia
Figure 4: percentage/frequency distribution of numeric pain rating scale
Figure 5: percentage/frequency distribution of stay at home most of time
Figure 7: percentage/frequency distribution of change position frequently
Figure 8: percentage/frequency distribution of walk more slowly
Figure 9: percentage/frequency distribution of not doing any jobs
Figure 10: percentage/frequency distribution of using handrails to get upstairs
Figure 11: percentage/frequency distribution of lie down to rest more often
Figure 12: percentage/frequency distribution of hold on to something
Figure 13: percentage/frequency distribution of try to get other people for help
Figure 14: percentage/frequency distribution of gets dressed more slowly
Figure 15: percentage/frequency distribution of only standup for short periods of time
Figure 16: percentage/frequency distribution of try not bend or kneel down
Figure 17: percentage/frequency distribution of finds it difficult to get out of chair
Figure 18: percentage/frequency distribution of back is painful all time
Figure 19: percentage/frequency distribution of finding difficult to turn over in bed
Figure20: percentage/frequency distribution of appetite is not very good
Figure 21: percentage/frequency distribution of trouble on putting socks
Figure 22: percentage/frequency distribution of only walks short distances
Figure 23: percentage/frequency distribution of sleep less well
Figure 24: percentage/frequency distribution of sit down for most of day
Figure 25: percentage/frequency distribution of avoids heavy jobs
Figure 26: percentage/frequency distribution of irritable and bad temple
Figure 27: percentage/frequency distribution of go upstairs more slowly
Figure 28: percentage/frequency distribution of stay in bed most of time

Age: Frequency/percentage distribution of age

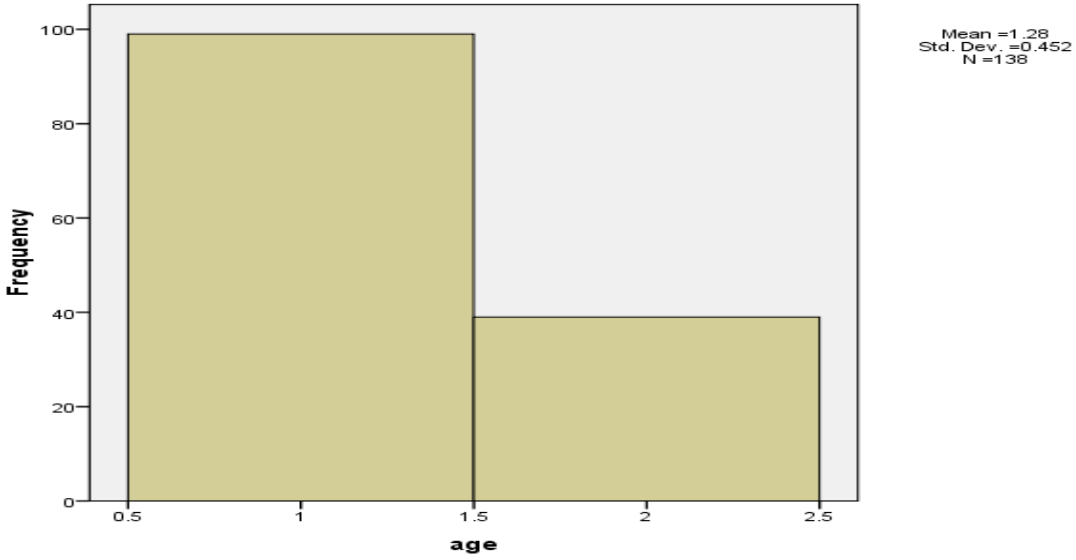

Figure 1: age frequency

Percentage age of female range from 21-30 years was 71.7% and 31-40 years was 28.3%.

Percentage/frequency distribution of pregnancy 'either first or not".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	29.0	29.0	29.0
	No	98	71.0	71.0	100.0
	Total	138	100.0	100.0	

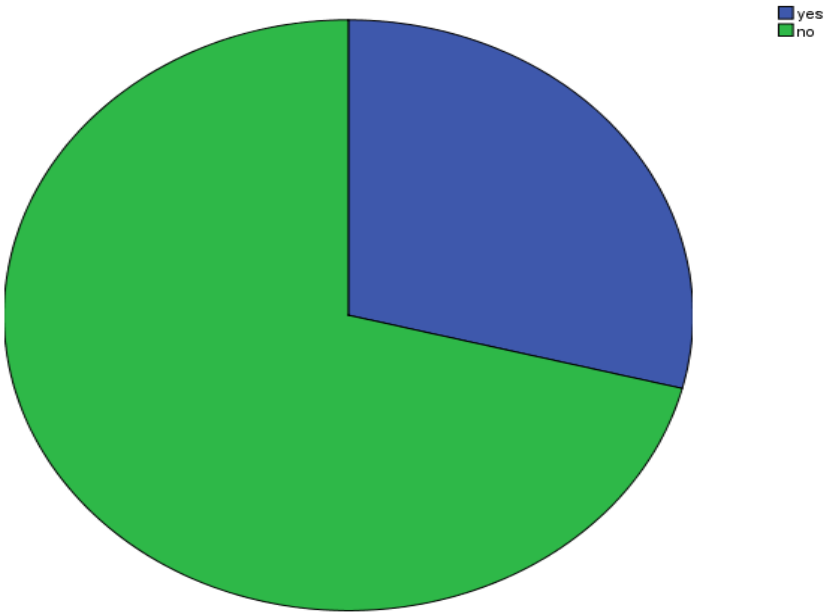

Figure 2: pregnancy either first or not

Percentage/frequency distribution of "complications occurred after anesthesia" occurred after anesthesia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Backache	73	52.9	52.9	52.9
	Hypotension	35	25.4	25.4	78.3
	nausea/vomiting	26	18.8	18.8	97.1
	paralysis of respiratory muscles	1	.7	.7	97.8
	urinary retention	3	2.2	2.2	100.0
	Total	138	100.0	100.0	

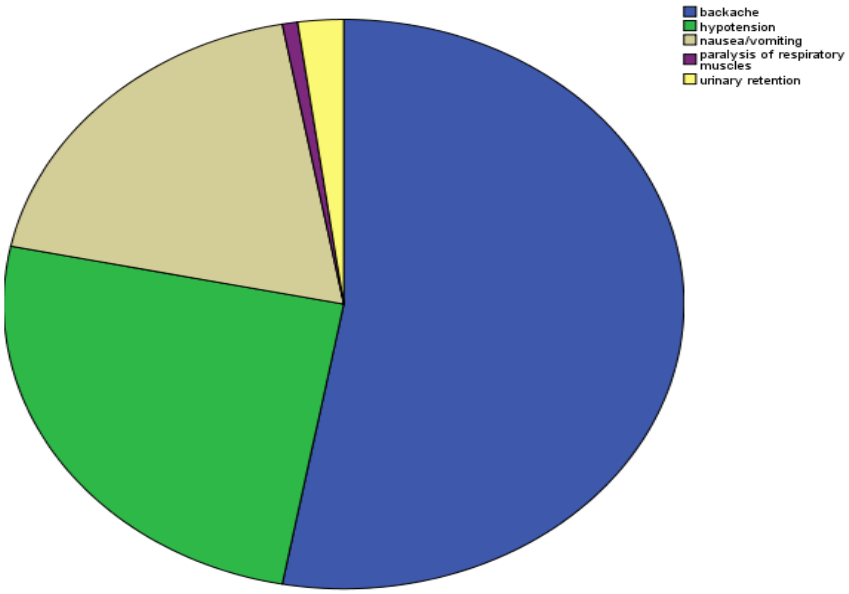

Figure 3: complications occurred after anesthesia

Percentage/ frequency distribution of "Numeric pain rating scale"

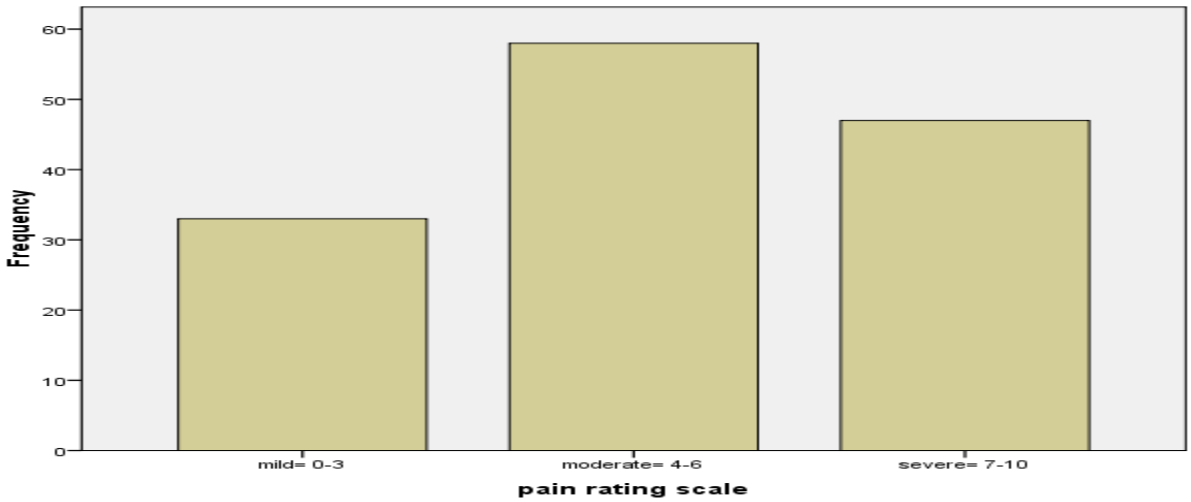

Figure 4: frequency complications occurred after anesthesia
23.9% women had mild pain, 42.0% had moderate pain and 34.1% had severe pain.

Percentage/frequency distribution of "I stay at home most of time because of my back."

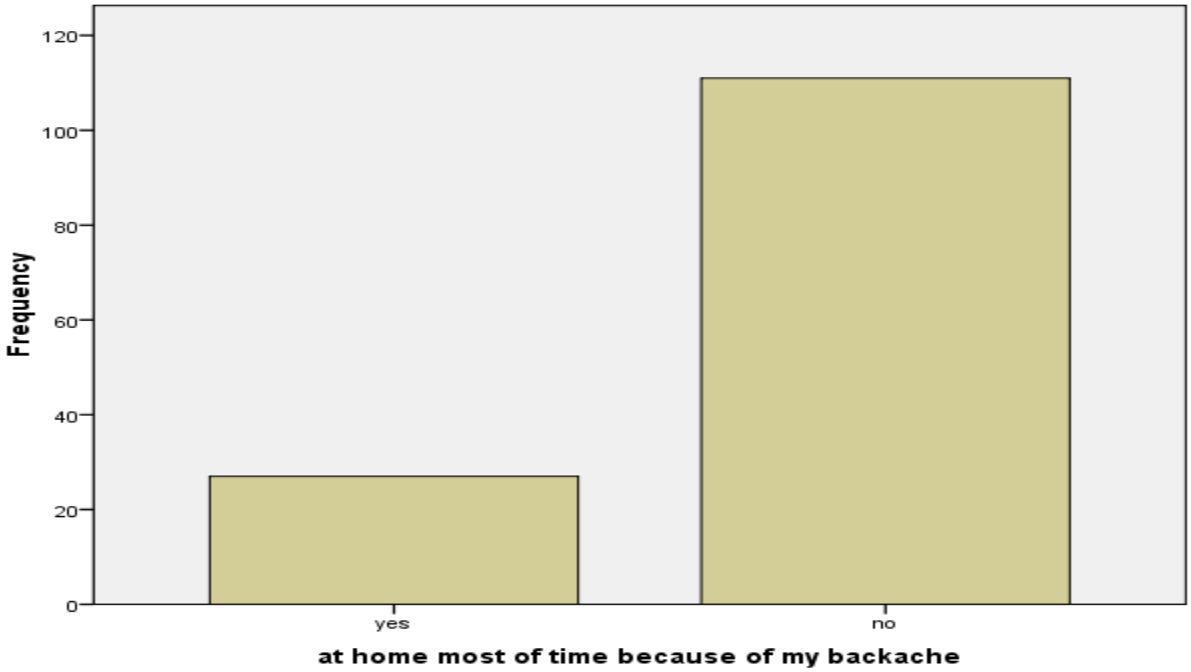

Figure 5: stay at home most of time frequency

19.6% women had to stay at home because of their backache.

Percentage/frequency distribution of "I change position frequently to try to get my back comfortable."

Figure 6: change position frequently frequency

61.1% women had to change position frequently to try to get their back in comfortable position.

Percentage/frequency distribution of "I walk more slowly than usual because of my back."

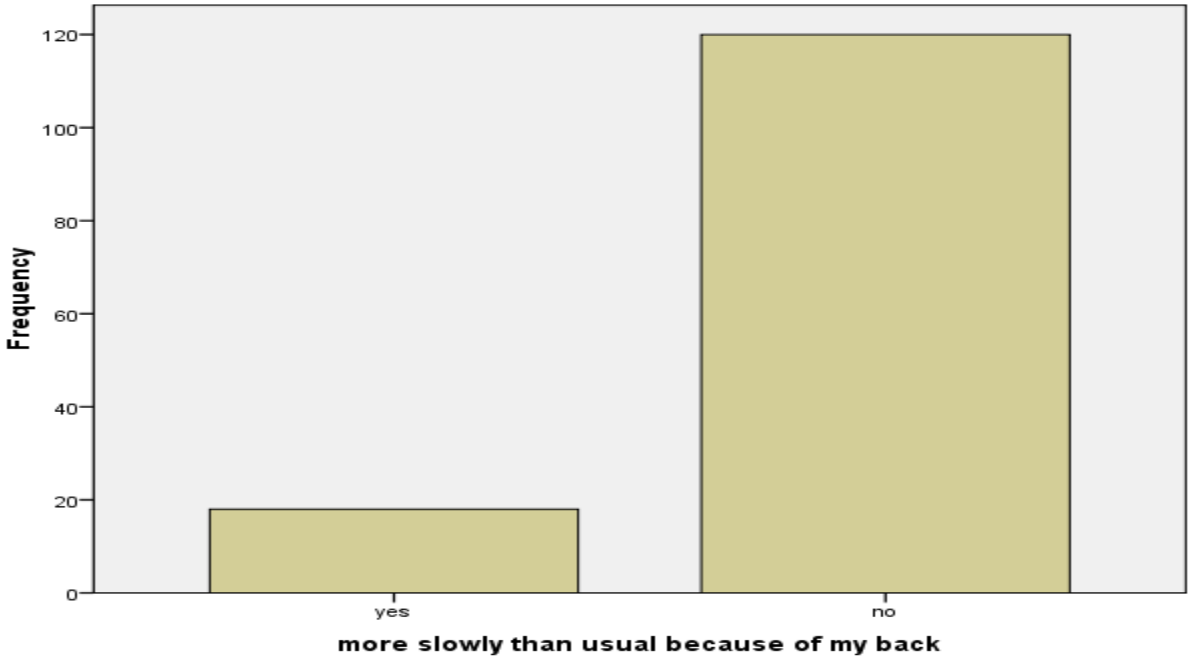

Figure 7: walk more slowly than usual frequency

13% women walked more slowly than usual because of their back pain.

Percentage/frequency distribution of "Because of my back, I am not doing any jobs that I usually do around the house."

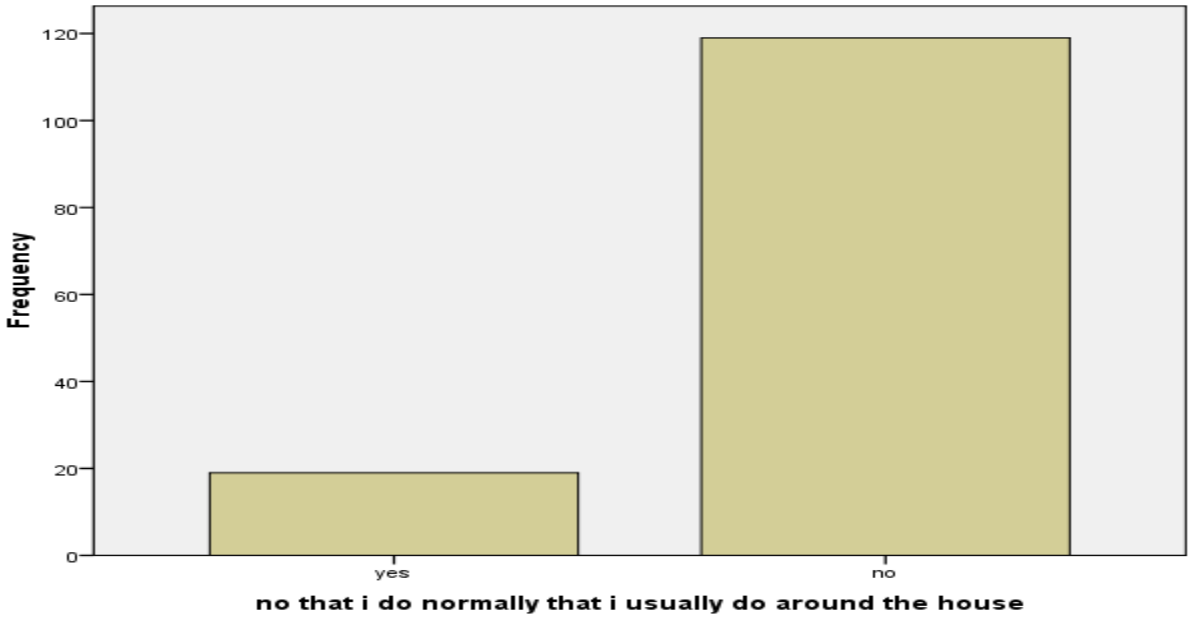

Figure 8: not doing any jobs frequency

13.8% women had problem doing work that they do normally around the house.

Percentage/frequency distribution of "Because of my back, I use a handrail to get upstairs."

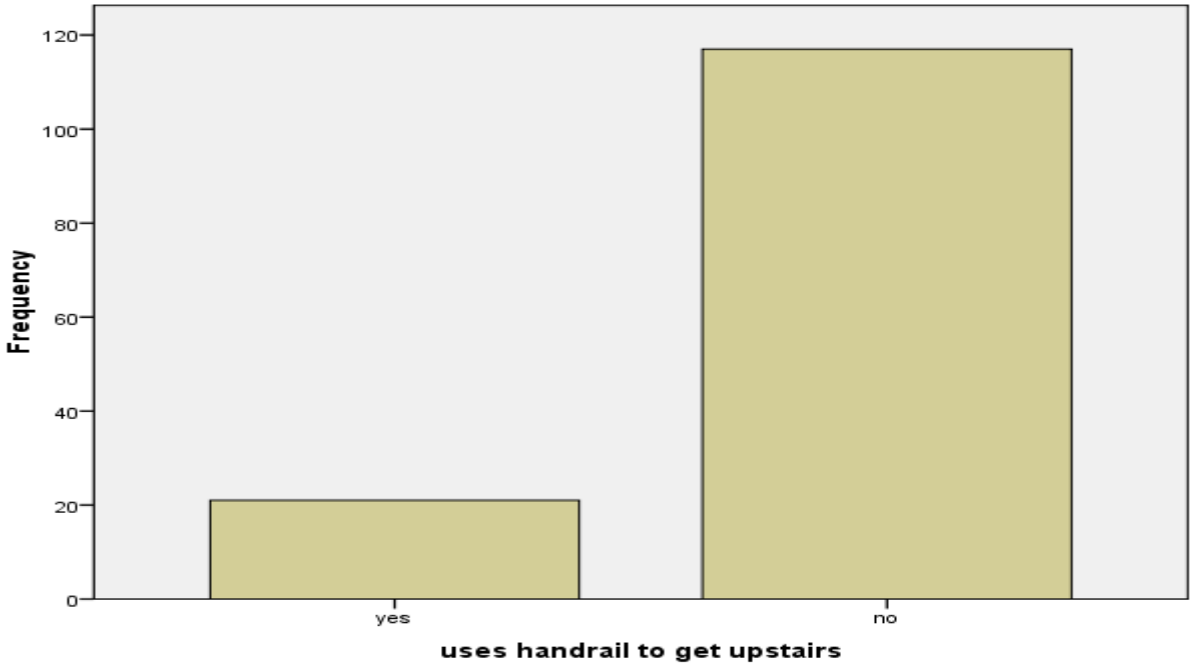

Figure 9: handrail to get upstairs frequency

15.2% women used handrails to get upstairs.

Percentage/frequency distribution of "Because of my back, I lie down to rest more often."

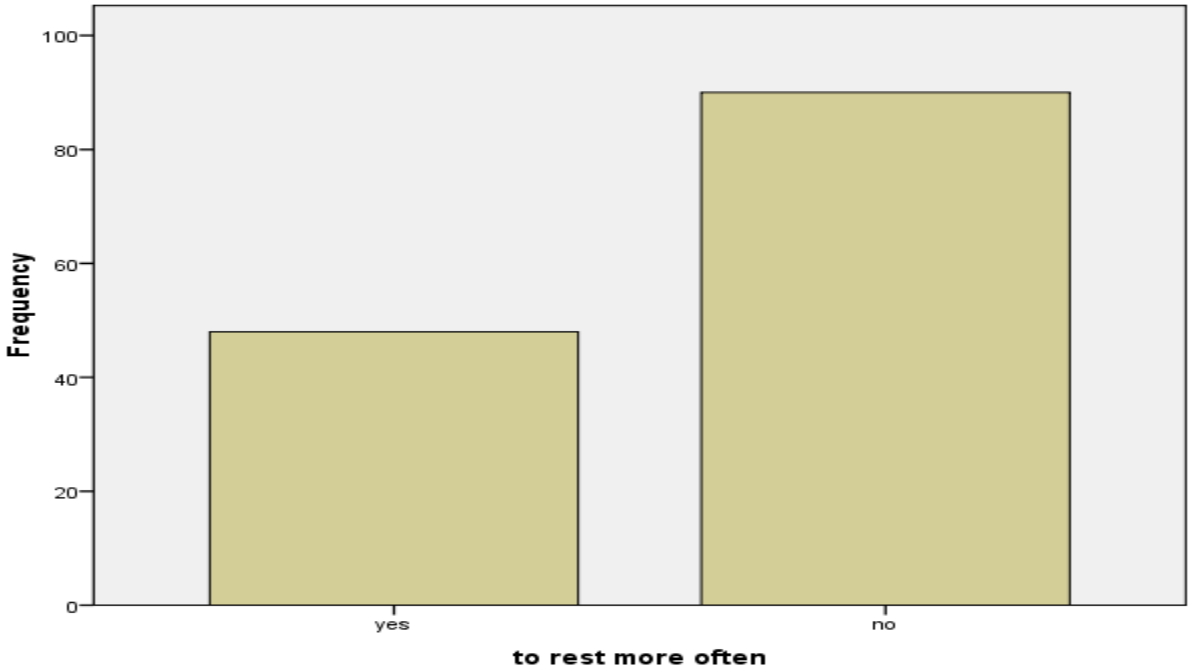

Figure 10: lie down to rest frequency

34.8% women had to lie down to rest more often because of back pain.

Percentage/frequency distribution of "Because of my back, I have to hold on to something to get out of an easy chair."

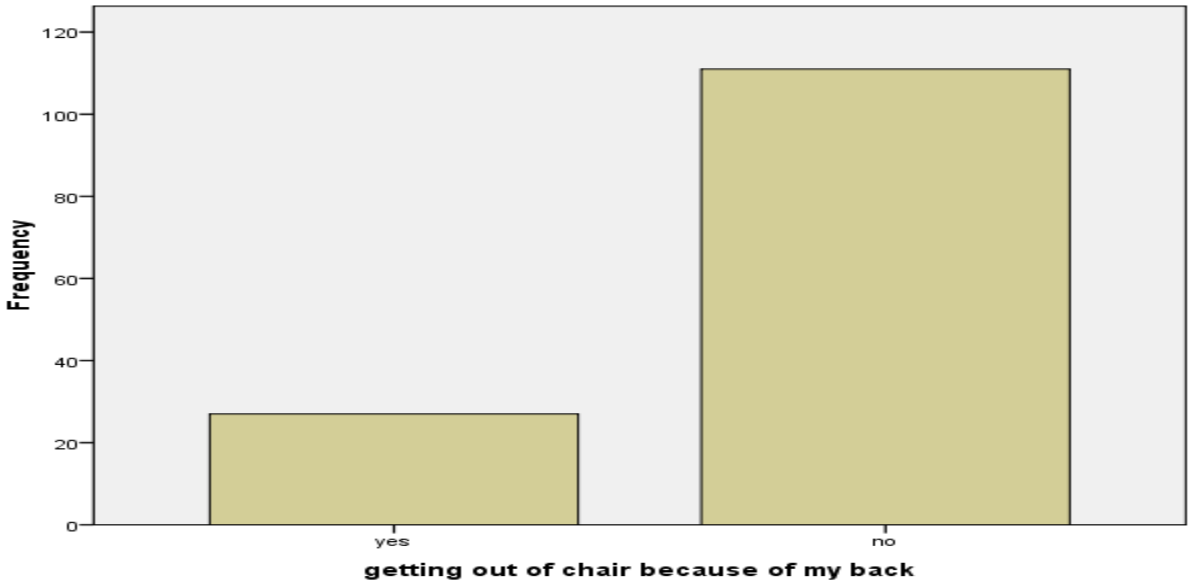

Figure 11: hold on to something to get out of an easy chair Frequency

19.6% women had difficulty getting out of chair because of their back pain.

Percentage/frequency distribution of "Because of my back, I try to get other people to do things for me."

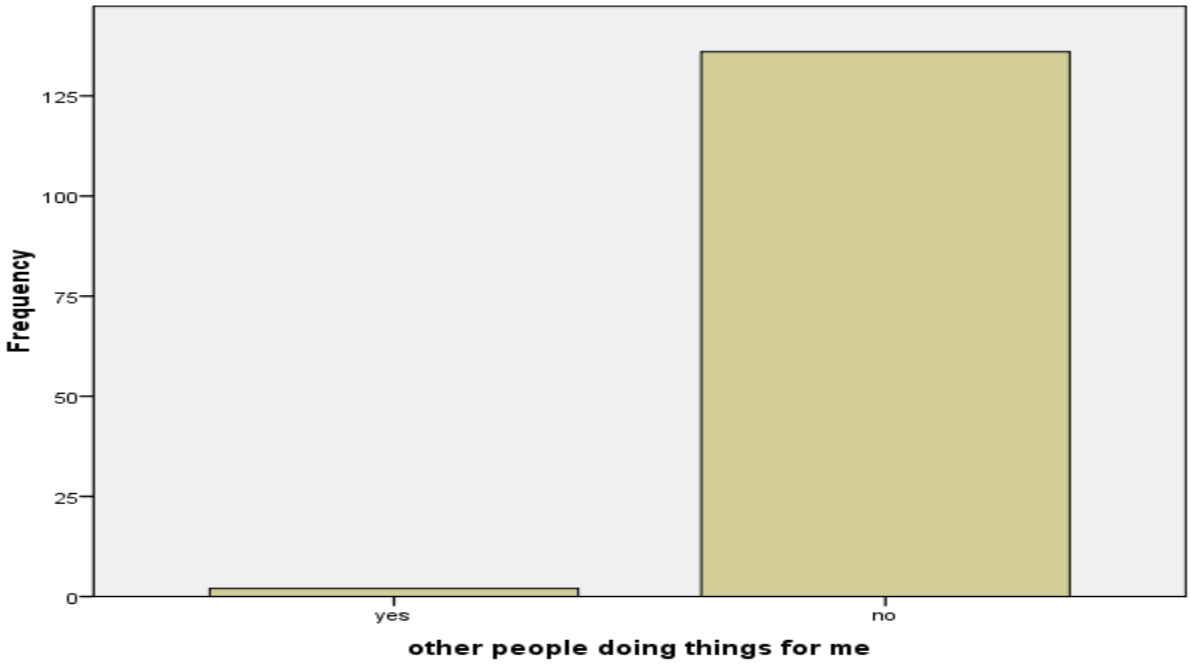

Figure 12: try to get other people to do things frequency

1.4% women tried to get other people to do things for them.

Percentage/frequency distribution of "I get dressed more slowly than usual because of my back."

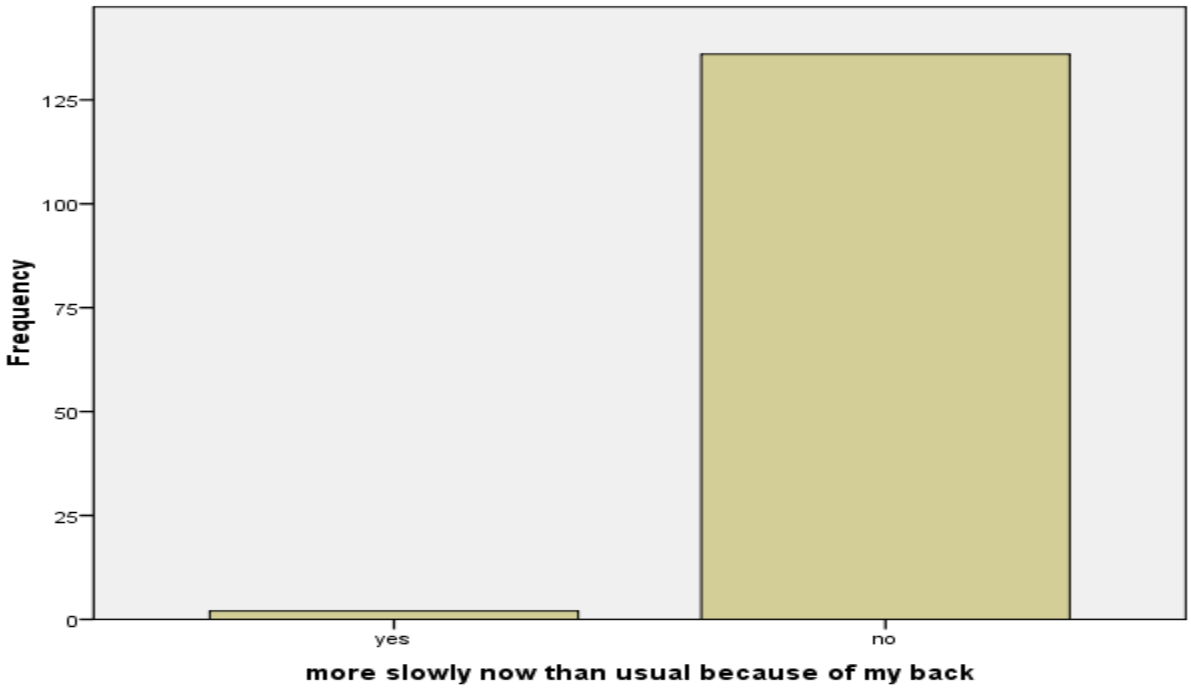

Figure 13: get dressed more slowly frequency

1.4% women got dressed more slowly than usual because of their back

Percentage/frequency distribution of "I only stand up for short periods of time because of my back."

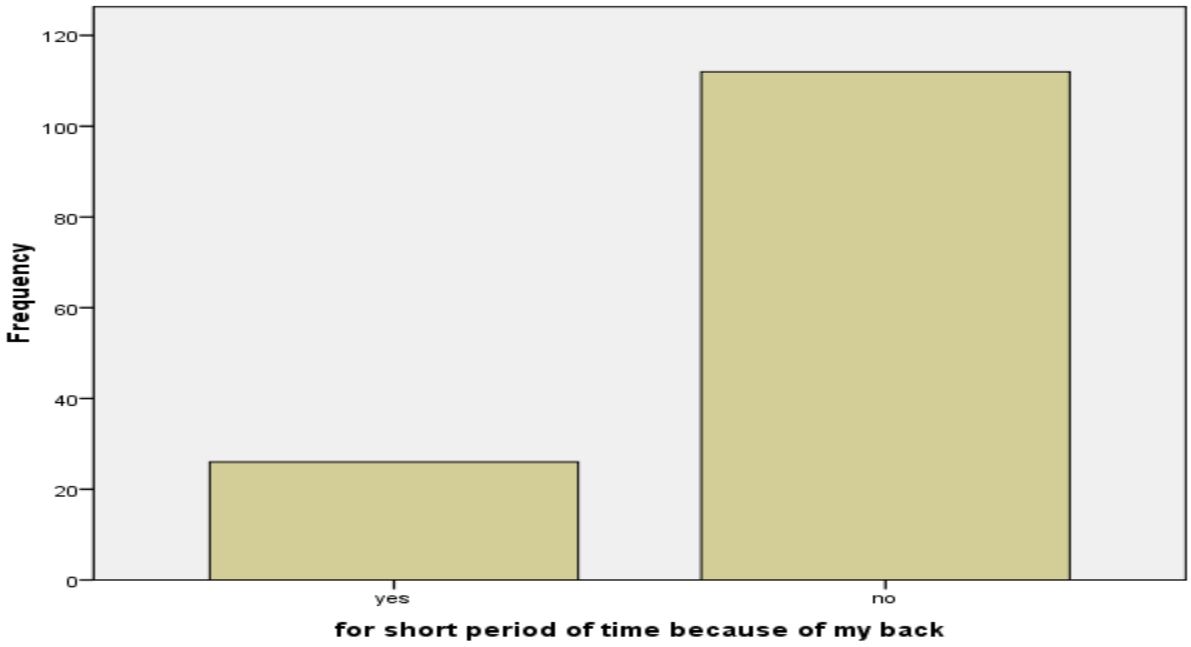

Figure 14: stand up for short periods of time frequency

18.8% women could only stand up for short periods of time because of their back pain.

Percentage/frequency distribution of "Because of my back, I try not to bend or kneel down.

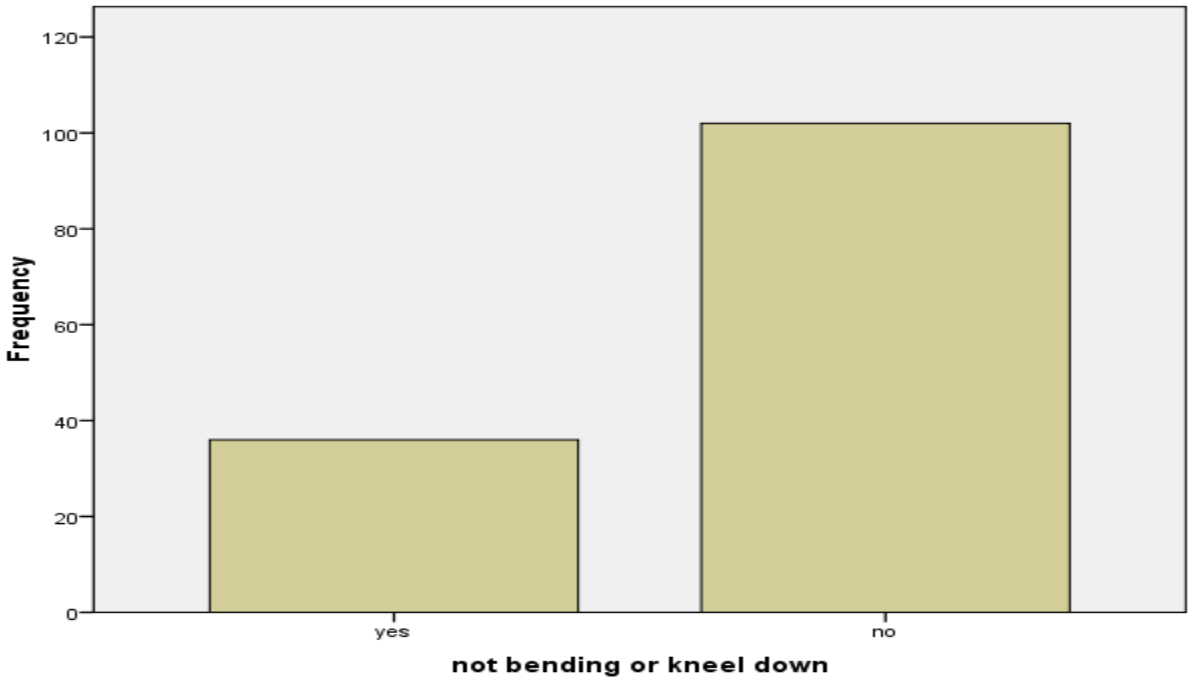

Figure 15: try not to bend or kneel down frequency

26.1% women tried not bend or kneel down.

Percentage/frequency distribution of "I find it difficult to get out of a chair because of my back."

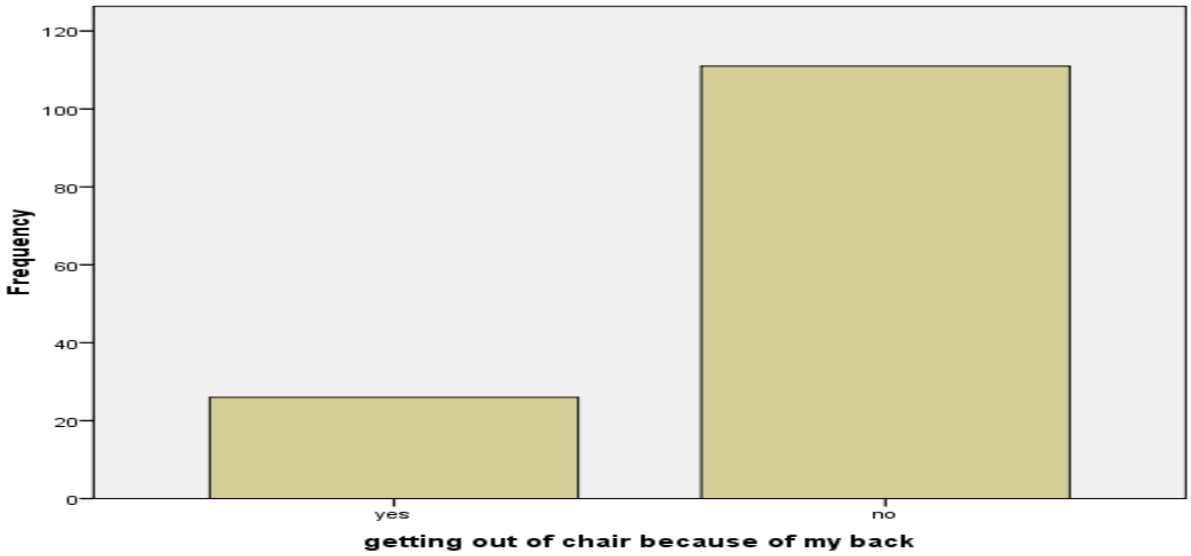

Figure 16: find it difficult to get out of a chair frequency

19.6% women had difficulty getting out of chair because of back.

Percentage/frequency distribution of "My back is painful almost all of the time."

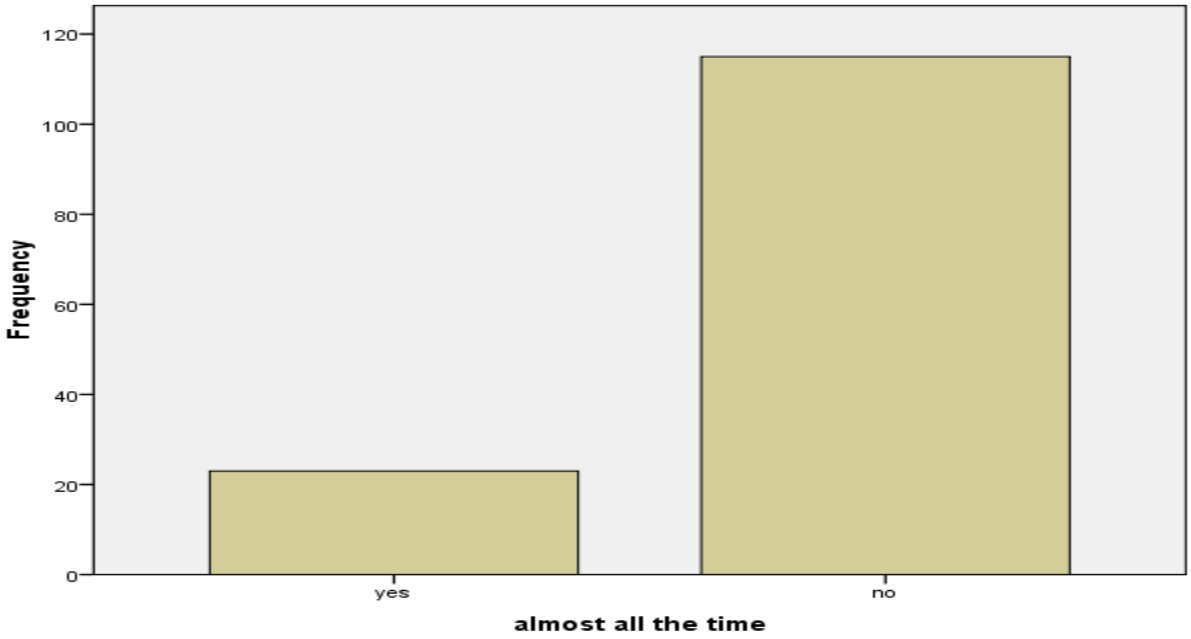

Figure 17: back is painful frequency

16.7% women had their back painful almost all the time.

Percentage/frequency distribution of "I find it difficult to turn over in bed because of my back."

Figure 18: find it difficult to turn over in bed frequency

8% women had difficulty in turning over in bed because of my back.

Percentage/frequency distribution of "My appetite is not very good because of my back."

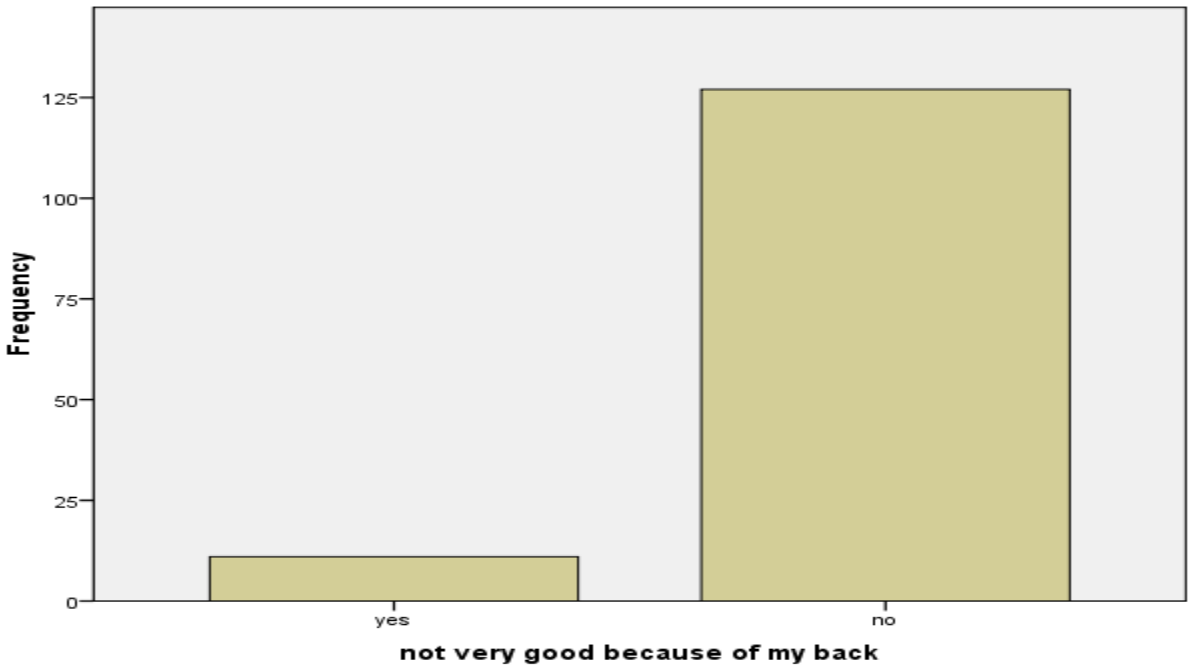

Figure 19: appetite is not very good frequency

8% women did not have a very good appetite because of their back.

Percentage/frequency distribution of "I have trouble putting on my socks (or stockings) because of the pain in my back."

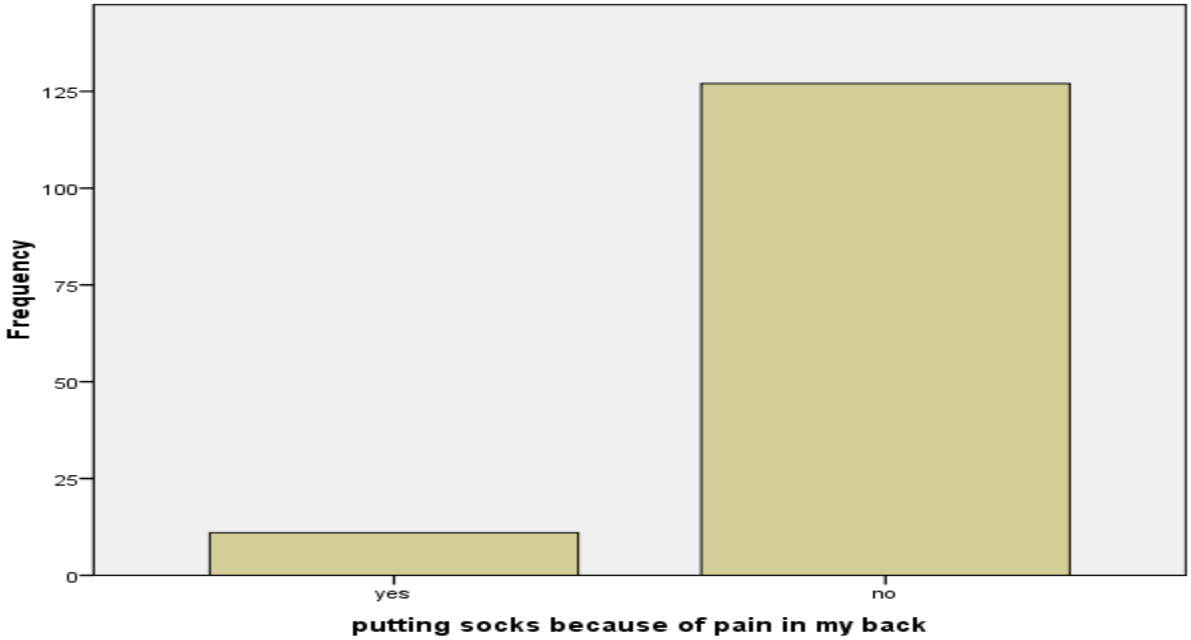

Figure 20: trouble putting on my socks frequency

8% women had problem putting socks because of pain in the back.

Percentage/frequency distribution of "I can only walk short distances because of my back pain."

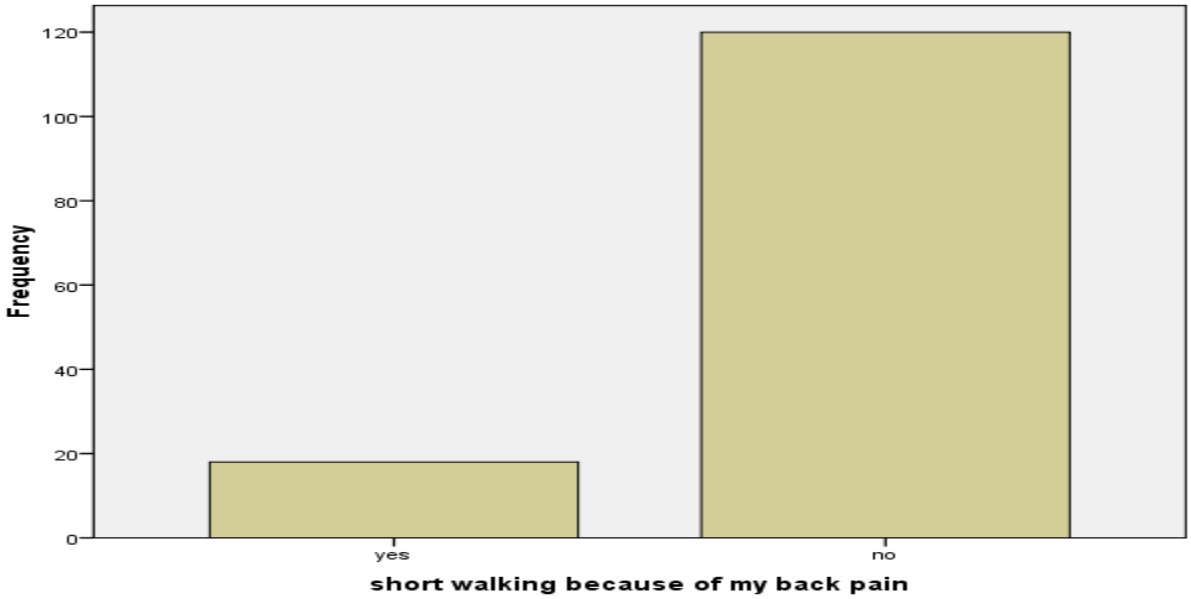

Figure 21: only walks short distances frequency

13% women could only walk short distances because of my back pain.

Percentage/frequency distribution of "I sleep less because of my back."

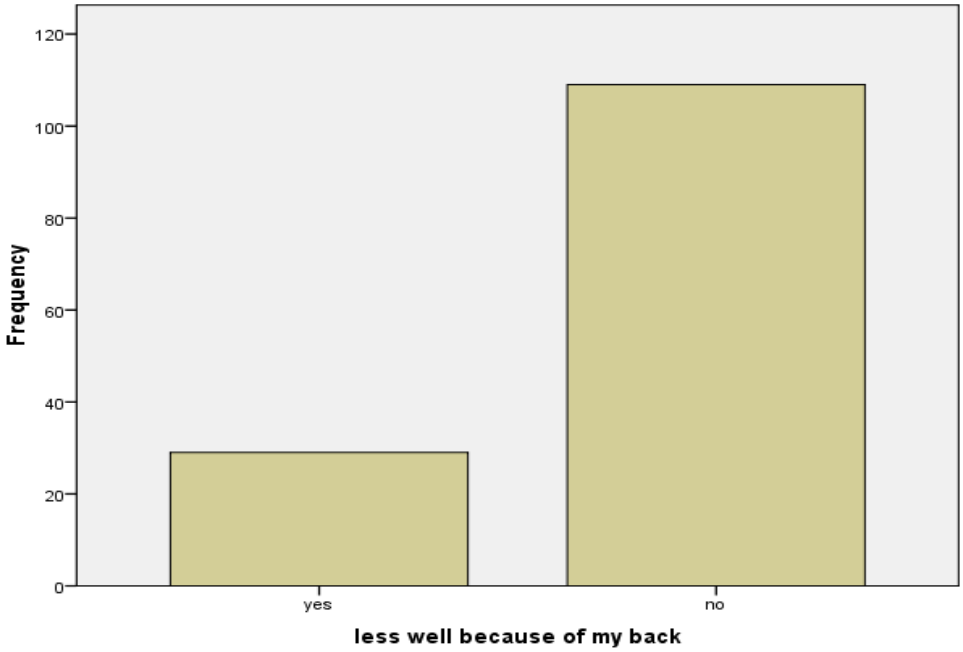

Figure 22: sleep less frequency

21% women sleep less well because of their back pain.

Percentage/frequency distribution of "I sit down for most of the day because of my back."

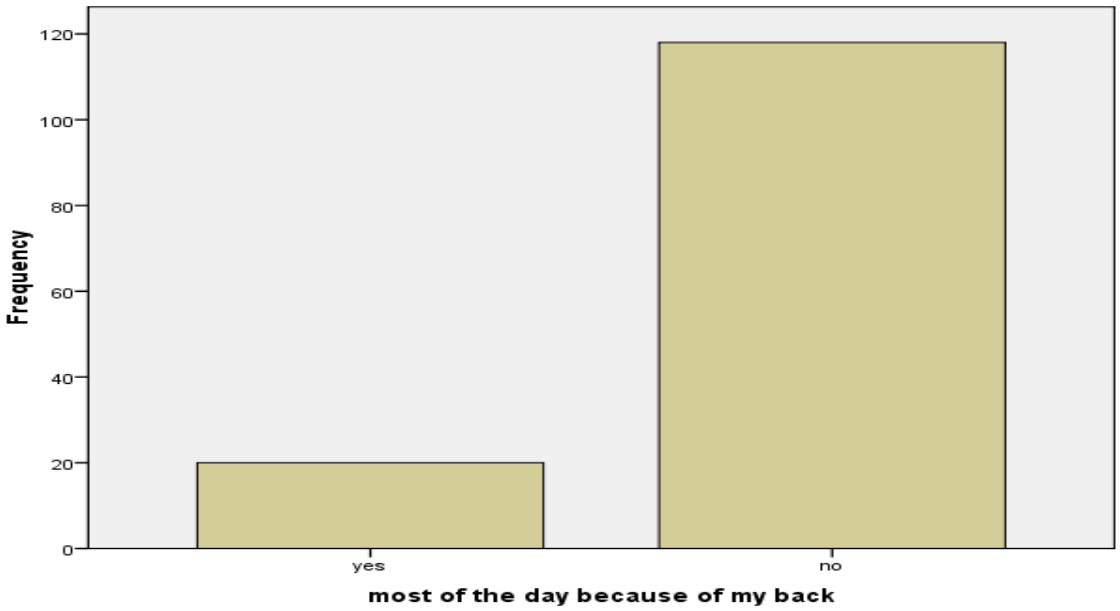

Figure 23: frequency sits down for most of the day

14.5% women had to sit down for most of the day because of their back pain.

Percentage/frequency distribution of "I avoid heavy jobs around the house because of my back."

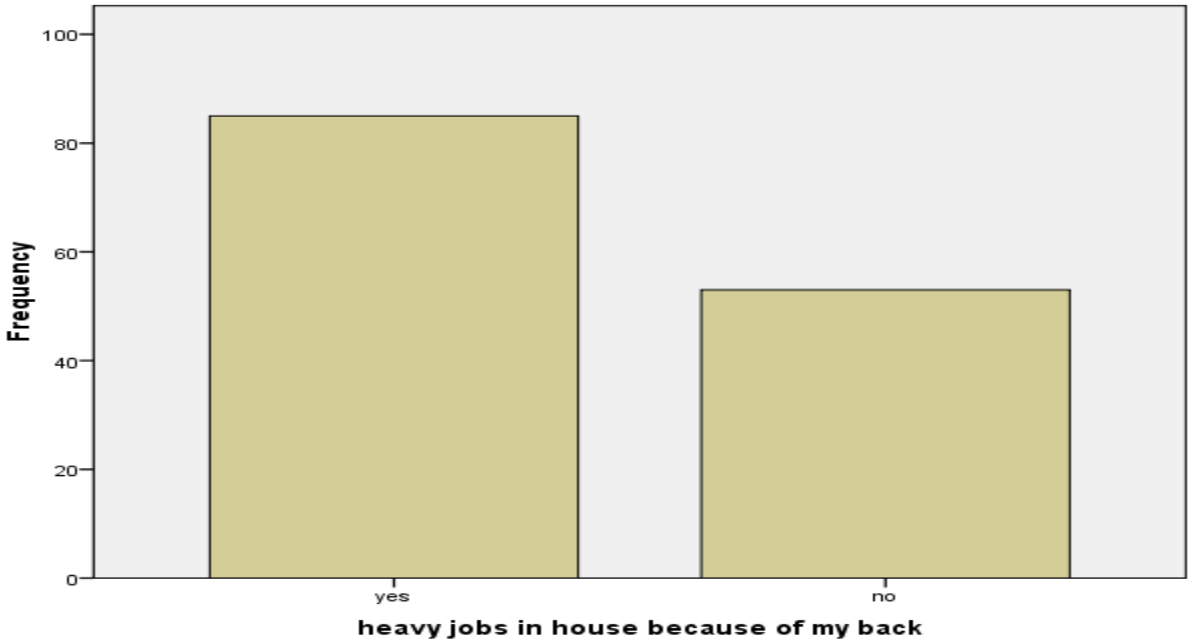

Figure 24: avoid heavy jobs frequency

61.6% women avoided heavy jobs around the house because of their back.

Percentage/frequency distribution of "Because of back pain, I am more irritable and bad tempered with people than usual."

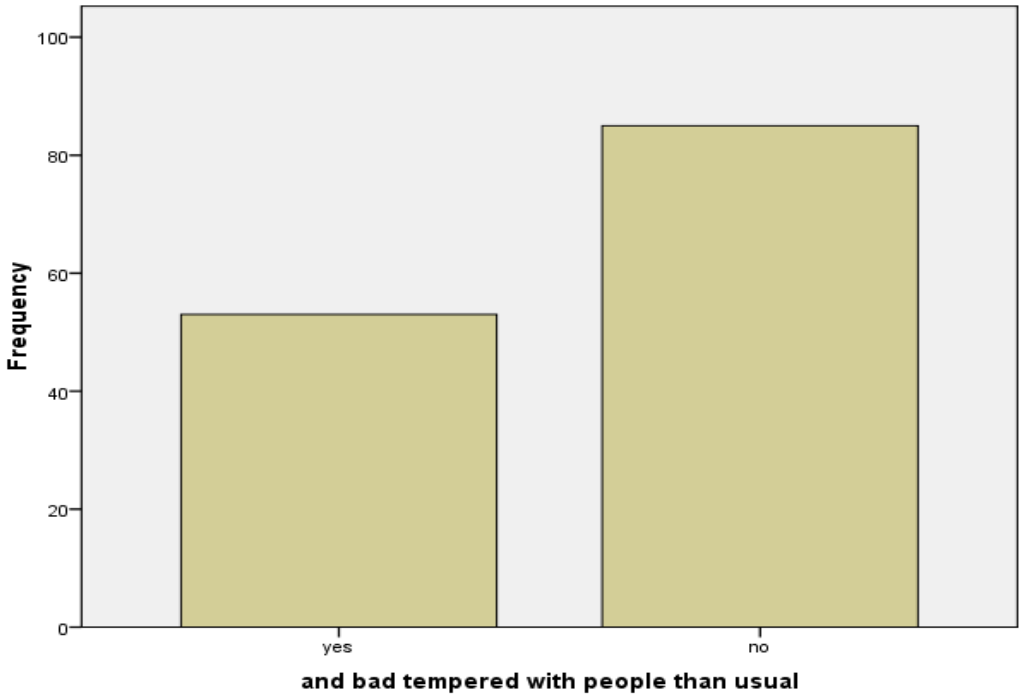

Figure 25: more irritable and bad-tempered frequency

38.4% women were more irritable and bad tempered with people than usual.

Percentage/frequency distribution of "Because of my back, I go upstairs more slowly than usual."

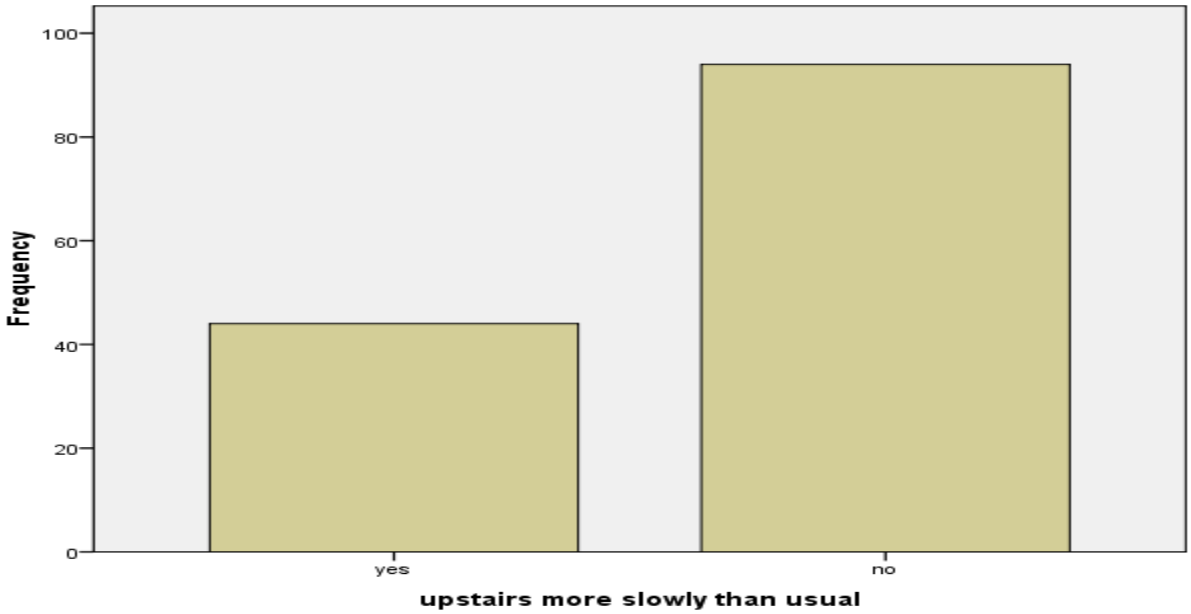

Figure 26: go upstairs more slowly frequency

31.9% women go upstairs more slowly than usual.

Percentage/frequency distribution of "I stay in bed most of the time because of my back."

Figure 27: stay in bed most of the time frequency

23.9% women stayed in bed most of the time because of their back.

DISCUSSION:

The main focus of the study was to find that regional anesthesia is a risk factor of low back pain after C-section in post partum women. Study assessed backache after C-section due to regional anesthesia and this affected their activity level and daily jobs and duties. Data collection indicated that 23.9% women had mild backache 42% had moderate and 34.1% had severe backache. 29% women had their first c-section and 71% women were not with first C-section. Study concluded that women with only a single C-section were less likely to develop backache as compared to women with history of two or three C-section. Wang ch et al concluded that low back pain could be related due to changes during pregnancy and not related to regional anesthesia(12). The incidence of new long term backache was not due to anesthesia but related to pregnancy. Russell R et al concluded that backache both before and during pregnancy were highly significant predictors for postpartum backache and no other factor was significant(13).

But our study mainly indicated backache was more profound was 52.9% in women undergone C- section under regional anesthesia in contrast with women with normal delivery without spinal anesthesia in accordance with the study conducted by B L SNG et al in 2009 concluded that back was the most common site for pain after C-section under regional anesthesia. Ron Butler at al also concluded that postpartum back pain was most common consequence of anesthesia. The main focus of this study was to conclude the risk factor of backache postpartum under regional anesthesia. This study filled the knowledge gap in Gujranwala. According to study conducted in Gujranwala we concluded that women undergoing C-section under regional anesthesia have high risk of developing long term backache with other mild complications.

CONCLUSION:

It is concluded that regional anesthesia is a major risk factor for backache in post-partum women of Gujranwala, Pakistan. Women experience severe backache and limitations in their daily activities as well. Women experience backache 52.9%, hypotension 25.4%, nausea/vomiting 18.8%, paralysis of respiratory muscles 0.7% and urinary retention 2.2%.

REFERENCES:

1. Chan YK, Tan PC. Local and Regional Analgesia for Labor and Delivery. In: Finucane BT, Tsui BCH, editors. Complications of Regional Anesthesia: Principles of Safe Practice in Local and Regional Anesthesia. Cham: Springer International Publishing; 2017. p. 303-17.
2. Antonakou A, Papoutsis D. The Effect of Epidural Analgesia on the Delivery Outcome of Induced Labour: A Retrospective Case Series. Obstetrics and gynecology international. 2016;2016:5740534-. PubMed PMID: 27990163. Epub 11/20.

3. Agrawal D, Makhija B, Arora M, Haritwal A, Gurha P. The effect of epidural analgesia on labour, mode of delivery and neonatal outcome in nullipara of India, 2011-2014. Journal of clinical and diagnostic research : JCDR. 2014;8(10):OC03-OC6. PubMed PMID: 25478409. Epub 10/20.
4. Russell R, Groves P, Taub N, O'Dowd J, Reynolds F. Assessing long term backache after childbirth. BMJ (Clinical research ed). 1993;306(6888):1299-303. PubMed PMID: 8518569.
5. Somboonviboon W, Kyokong O, Charuluxananan S, Narasethakamol A. Incidence and risk factors of hypotension and bradycardia after spinal anesthesia for cesarean section. J Med Assoc Thai. 2008 2008/02//;91(2):181-7. PubMed PMID: 18389982. eng.
6. Sng BL, Sia AT, Quek K, Woo D, Lim Y. Incidence and risk factors for chronic pain after caesarean section under spinal anaesthesia. Anaesth Intensive Care. 2009 Sep;37(5):748-52. PubMed PMID: 19775038. Epub 2009/09/25. eng.
7. Faccenda KA, Finucane B. Complications of Regional Anaesthesia. Drug Safety. 2001 May 01;24(6):413-42.
8. Macarthur A, Macarthur C, Weeks S. Epidural anaesthesia and low back pain after delivery: a prospective cohort study. BMJ. 1995;311 (7016):1336-9.
9. MacArthur C, Lewis M, Knox EG, Crawford JS. Epidural anaesthesia and long term backache after childbirth. British Medical Journal. 1990;301 (6742):9-12.
10. Howell CJ, Dean T, Lucking L, Dziedzic K, Jones PW, Johanson RB. Randomised study of long term outcome after epidural versus non-epidural analgesia during labour. BMJ. 2002;325 (7360):357.
11. Butler R, Fuller J. Back pain following epidural anaesthesia in labour. Canadian Journal of Anaesthesia. 1998 August 01;45 (8):724.
12. Wang CH, Cheng KW, Neoh CA, Tang S, Jawan B, Lee JH. Comparison of the incidence of postpartum low back pain in natural childbirth and cesarean section with spinal anesthesia. Acta Anaesthesiol Sin. 1994 1994/12//; 32 (4):243-6. PubMed PMID: 7894920. eng.
13. Russell R, Dundas R, Reynolds F. Long term backache after childbirth: prospective search for causative factors. BMJ. 1996; 312 (7043):1384-8.