Survey on knowledge, attitude and practice of osteoporosis among general population in Bangladesh

A Dissertation Submitted to

East West University, Dhaka, Bangladesh

In the partial fulfillment of the requirements for the Degree of

Bachelor of Pharmacy

Submitted by

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Under the Guidance of

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Declaration by the Research Candidate

I,Yesmin Ara Runa, ID: 2011-3-70-047, hereby declare that the dissertation entitled---"Survey on knowledge, attitude and practice of osteoporosis among general population in Bangladesh" submitted, to the Department of Pharmacy, East West University in partial fulfillment of the requirement for the award of the degree of Bachelor of Pharmacy. It is further declared that the research work presented here is orginal, has not been submitted anywhere else for any degree or diploma.

……..

Yesmin Ara Runa

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Certificate by the Supervisor

This is to certify that the thesis entitled “Survey on knowledge, attitude and practice of osteoporosis among general population in Bangladesh” is a bona fide record of original and genuine research work carried out by Yesmin Ara Runa, ID: 2011-3-70-047 in 2017 of her research, under the supervision and guidance of me.

……..

NafisaTanjia

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Certificate by the Chairperson

This is to certify that the thesis entitled "Survey on knowledge, attitude and practice of osteoporosis among general population in Bangladesh" submitted to the Department of Pharmacy, East West University for the partial fulfillment of the requirement for the award of the degree Bachelor of Pharmacy is a bona fide record of original and genuine research work carried out by Yesmin Ara Runa, ID: 2011-3-70-047 in 2017 of her research.

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Dr. Chowdhury Faiz Hossain

Professor and Chairperson

Department of Pharmacy

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Acknowledgement

At first I am grateful to Most Gracious Most Merciful ALLAH for the good health and well-being that were necessary to complete this research.

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Dedication

To

My Beloved

Parents, Research Supervisors &

All EWUians

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Abstract

Osteoporosis is a disease where increased bone weakness increases the risk of a broken bone. It is the most common reason for a broken bone among the elderly. Bones that commonly break include the back bones, the bones of the forearm, and the hip. Until a broken bone occurs there are typically no symptoms. Bones may weaken to such a degree that a break may occur with minor stress or spontaneously. Chronic pain and a decreased ability to carry out normal activities may occur following a broken bone.

Family history is not an issue for this disease. Among surveyed people 38% has family history and 62% people has no family history of this disease. Among 151 surveyed people, major types of osteoporosis disease are, Type1 0%, Type2 15%, Type3 15%, Don't have any idea 70%. Most of the people don't Diagnosed with bone problem. From survey, 20% people do diagnose and 80% people doesn't diagnosed. Among 151 surveyed people, major types of osteoporosis disease are, Type1 0%, Type2 15%, Type3 15%, Don't have any idea 70%. Any fracture 12%, Hip 40%, Rib 8%, Wrist 12%, Spine 28% among 151 people's survey.

Chapter 1

Introduction and Literature Review

1.1 Osteoporosis:

After reading previous research papers on the subject, a few insights have been recorded. Osteoporosis is determined by the World Health Organization as a value for bone mineral density (BMD) 2.5 standard deviations or more below the young female adult mean– referred to as a T-score of −2.5, where a T-score of zero is equal to the young female adult mean.6 It is estimated that one in two women and one in ve men over the age of 50 years in the UK (National Osteoporotic Society, UK) and an estimated 44 million Americans (National Osteoporotic Society, USA) are at risk of osteoporotic fracture – most commonly fractures of the hip, wrist, and vertebra. Therapies to inhibit osteoclasts are effective at preventing bone loss, but osteoporosis often goes undiagnosed until an individual receives a bone scan after a fracture. Population screening by dual-energy X-ray absorptiometry (DXA) bone scans (which is the current gold standard for osteoporosis diagnosis) is not cost-effective, and therefore new, reliable methods to identify individuals with low BMD are required.7 Since the treatment of osteoporotic fracture has a huge impact on individual recovery and the national health budget, this serves to highlight the pivotal role for early diagnosis, prevention, and treatment of osteoporosis.

Osteoporosis is caused by an uncoupling of bone resorption from bone formation such that the activities of osteoclasts far outweigh those of the osteoblasts. Peak bone mass is achieved in early adulthood and, following this point, both women and men lose bone with increasing age. However, this process is accelerated in postmenopausal women whereby the loss of estrogen is associated with an increase in osteoclast activity. Decades of research indicates that estrogen plays a dominant multifactorial role in maintaining cortical bone formation by supporting osteoblasts and preventing bone resorption by suppressing osteoclast formation and stimulating osteoclast apoptosis.

In men, testosterone plays a crucial role in protecting the skeleton. Experiments with androgen receptor knockout mouse models showed that the absence of androgen receptors on the surface of bone cells leads to the development of osteoporosis in male mice, but not in female mice.10 These experiments showed that the protective action of testosterone is mediated via the supportive activity of osteoblasts on osteoclasts, not directly on osteoclasts themselves. Although testosterone has a direct effect on bone, estrogen is also important in maintaining bone health in men since estrogen activity in

bone cells is via the conversion of androgen to estrogen, indicating a dual protective action of androgens in men.

Secondary osteoporosis is de ned as osteoporosis that develops as a consequence of an unrelated underlying cause. These can include a drug treatment (eg, chronic corticosteroid use), hypogonadism, malnutrition or eating disorders such as anorexia nervosa, excessive exercise, and neoplastic disorders.

The integrity of the skeleton is also intricately linked to appetite and energy balance, and the underlying mechanism by which bone mass is regulated by the brain is through a leptin-mediated brain-derived serotonin pathway. This research indicates potential adverse effects of anti-obesity leptin therapy on bone mass and con rms the molecular basis of the bone loss that is associated with prolonged treatment with selective serotonin reuptake inhibitors.(Anderson, M., Jean-Marc F. et al., 2005)

1.2 Signs and Causes:

Osteoporosis usually do not have any symptoms. They are mainly the consequence of a probable bone fracture. Osteoporotic fractures occur in situations where healthy people would not normally break a bone; they are therefore regarded as fragility fractures. Typical fragility fractures occur in the vertebral column, rib, hip and wrist.

Fractures are the most dangerous aspect of osteoporosis. Debilitating acute and chronic pain in the elderly is often attributed to fractures from osteoporosis and can lead to further disability and early mortality. These fractures may also be asymptomatic. The most common osteoporotic fractures are of the wrist, spine, shoulder and hip. The symptoms of a vertebral collapse or a compression fracture are sudden back pain, often with radicular pain (shooting pain due to nerve root compression) and rarely with spinal cord compression or cauda equina syndrome. Multiple vertebral fractures lead to a stooped posture, loss of height, and chronic pain with resultant reduction in mobility.

Fractures of the long bones acutely impair mobility and may require surgery. Hip fracture, in particular, usually requires prompt surgery, as serious risks are associated with it, such as deep vein thrombosis and pulmonary embolism, and increased mortality. Fracture risk calculators assess the risk of fracture based upon several criteria, including BMD, age, smoking, alcohol usage, weight, and gender.

The increased risk of falling associated with aging leads to fractures of the wrist, spine, and hip. The risk of falling, in turn, is increased by impaired eyesight due to any cause (e.g. glaucoma, macular degeneration), balance disorder, movement disorders (e.g. Parkinson's disease), dementia, and sarcopenia (age-related loss of skeletal muscle). Collapse (transient loss of postural tone with or without loss of consciousness) leads to a significant risk of falls; causes of syncope are manifold, but may include cardiac arrhythmias (irregular heart beat), vasovagal syncope, orthostatic hypotension (abnormal drop in blood pressure on standing up), and seizures. Removal of obstacles and loose carpets in the living environment may substantially reduce falls. Those with previous falls, as well as those with gait or balance disorders, are most at risk. (Heinz et. al 2000)

1.3 Risk Factors:

Risk factors for osteoporotic fracture can be split between non-modifiable and (potentially) modifiable. In addition, osteoporosis is a recognized complication of specific diseases and disorders. Medication use is theoretically modifiable, although in many cases, the use of medication that increases osteoporosis risk may be unavoidable. It is more likely in females than males. (Jorgensen HS et. al., 2016)

1.4 Non-modifiable Risk Factors:

The most important risk factors for osteoporosis are advanced age (in both men and women) and female sex; estrogen deficiency following menopause or surgical removal of the ovaries is correlated with a rapid reduction in bone mineral density, while in men, a decrease in testosterone levels has a comparable (but less pronounced) effect.

Race: While osteoporosis occurs in people from all ethnic groups, European or Asian ancestry predisposes for osteoporosis.

Heredity: Those with a family history of fracture or osteoporosis are at an increased risk; the heritability of the fracture, as well as low bone mineral density, is relatively high, ranging from 25 to 80%. At least 30 genes are associated with the development of osteoporosis.

Those who have already had a fracture are at least twice as likely to have another fracture compared to someone of the same age and sex. Early menopause/hysterectomy is another predisposing factor.

Build: A small stature is also a non-modifiable risk factor associated with the development of osteoporosis.

1.5 Potentially Modifiable Risk Factors:

Excess consumption of alcohol: Although small amounts of alcohol are probably beneficial (bone density increases with increasing alcohol intake), chronic heavy drinking (alcohol intake greater than three units/day) probably increases fracture risk despite any beneficial effects on bone density.

Vitamin D deficiency: Low circulating Vitamin D is common among the elderly worldwide. Mild vitamin D insufficiency is associated with increased parathyroid hormone (PTH) production. PTH increases bone resorption, leading to bone loss. A positive association exists between serum 1,25-dihydroxycholecalciferol levels and bone mineral density, while PTH is negatively associated with bone mineral density.

Tobacco smoking: Many studies have associated smoking with decreased bone health, but the mechanisms are unclear. Tobacco smoking has been proposed to inhibit the activity of osteoblasts, and is an independent risk factor for osteoporosis. Smoking also results in increased breakdown of exogenous estrogen, lower body weight and earlier menopause, all of which contribute to lower bone mineral density.

Malnutrition: Nutrition has an important and complex role in maintenance of good bone. Identified risk factors include low dietary calcium and/or phosphorus, magnesium, zinc, boron, iron, fluoride, copper, vitamins A, K, E and C (and D where skin exposure to sunlight provides an inadequate supply). Excess sodium is a risk factor. High blood acidity may be diet-related, and is a known antagonist of bone. Some have identified low protein intake as associated with lower peak bone mass during adolescence and lower bone mineral density in elderly populations. Conversely, some have identified low protein intake as a positive factor, protein is among the causes of dietary acidity. Imbalance of omega-6 to omega-3 polyunsaturated fats is yet another identified risk factor.

High dietary protein from animal sources: Research has found an association between diets high in animal protein and increased urinary calcium, and have been linked to an increase in fractures. However, the relevance of this observation to bone density is unclear[citation needed], since higher protein diets tend to increase absorption of calcium from the diet and are associated with higher bone density. Indeed, it has recently been

argued that low protein diets cause poor bone health. No interventional trials have been performed on dietary protein in the prevention and treatment of osteoporosis.

Underweight/inactive: Bone remodeling occurs in response to physical stress, so physical inactivity can lead to significant bone loss. Weight bearing exercise can increase peak bone mass achieved in adolescence, and a highly significant correlation between bone strength and muscle strength has been determined. The incidence of osteoporosis is lower in overweight people.

Endurance training: In female endurance athletes, large volumes of training can lead to decreased bone density and an increased risk of osteoporosis. This effect might be caused by intense training suppressing menstruation, producing amenorrhea, and it is part of the female athlete triad. However, for male athletes, the situation is less clear, and although some studies have reported low bone density in elite male endurance athletes, others have instead seen increased leg bone density.

Heavy metals: A strong association between cadmium and lead with bone disease has been established. Low-level exposure to cadmium is associated with an increased loss of bone mineral density readily in both genders, leading to pain and increased risk of fractures, especially in the elderly and in females. Higher cadmium exposure results in osteomalacia (softening of the bone).

Soft drinks: Some studies indicate soft drinks (many of which contain phosphoric acid) may increase risk of osteoporosis, at least in women. Others suggest soft drinks may displace calcium-containing drinks from the diet rather than directly causing osteoporosis.

Proton pump inhibitors (such as lansoprazole, esomeprazole, or omeprazole) that decrease stomach acid, are a risk for bone fractures if taken for two or more years, due to decreased absorption of calcium in the stomach. (Charles Patrick Davis et. al., 2016)

1.6 Preventions:

Lifestyle prevention of osteoporosis is in many aspects the inverse of the potentially modifiable risk factors. As tobacco smoking and high alcohol intake have been linked with osteoporosis, smoking cessation and moderation of alcohol intake are commonly recommended as ways to help prevent it.

In people with coeliac disease adherence to a gluten-free diet decreases the risk of developing osteoporosisand increases bone density. The diet must ensure optimal calcium intake (of at least one gram daily) and measuring vitamin D levels is recommended, and to take specific supplements if necessary.

Studies of the benefits of supplementation with calcium and vitamin D are conflicting, possibly because most studies did not have people with low dietary intakes. A 2013 review by the USPSTF found insufficient evidence to determine if supplementation with calcium and vitamin D results in greater harm or benefit in men and premenopausal women. The USPSTF did not recommend low dose supplementation (less than 1 g of calcium and 400 IU of vitamin D) in postmenopausal women as there does not appear to be a difference in fracture risk. It is unknown what effect higher doses have. A 2015 review found little data that supplementation of calcium decreases the risk of fractures.

While some meta-analyses have found a benefit of vitamin D supplements combined with calcium for fractures, they did not find a benefit of vitamin D supplements alone.While supplementation does not appear to affect the risk of death, there is an increased risk of myocardial infarctions with calcium supplementation, kidney stones, and stomach problems.

Vitamin K deficiency is also a risk factor for osteoporotic fractures. The gene gamma-glutamylcarboxylase (GGCX) is dependent on vitamin K. Functional polymorphismsin the gene could attribute to variation in bone metabolism and BMD. Vitamin K2 is also used as a means of treatment for osteoporosis and the polymorphisms of GGCX could explain the individual variation in the response to treatment of vitamin K. Vitamin K supplementation may reduce the risk of fractures in postmenopausal women; however, there is no evidence for men.

A 2011 review reported a small benefit of physical exercise on bone density of postmenopausal women. The chances of having a fracture were also slightly reduced (absolute difference 4%). People who exercised had on average less bone loss (0.85% at the spine, 1.03% at the hip). (Deborah et. al., 2014)

1.7 Precautionary measures:

Weight-bearing endurance exercise and/or exercises to strengthen muscles improve bone strength in those with osteoporosis. Aerobics, weight bearing, and resistance exercises all maintain or increase BMD in postmenopausal women. Fall prevention can help prevent osteoporosis complications. There is some evidence for hip protectors specifically among those who are in care homes.

Bisphosphonates are useful in decreasing the risk of future fractures in those who have already sustained a fracture due to osteoporosis. This benefit is present when taken for three to four years. Different bisphosphonates have not been directly compared, therefore it is unknown if one is better than another. Fracture risk reduction is between 25 and 70% depending on the bone involved. There are concerns of atypical femoral fractures and osteonecrosis of the jaw with long-term use, but these risks are low. With evidence of little benefit when used for more than three to five years and in light of the potential adverse events, it may be appropriate to stop treatment after this time in some. One medical organization recommends that after five years of medications by mouth or three years of intravenous medication among those at low risk, bisphosphonate treatment can be stopped. In those at higher risk they recommend up to ten years of medication by mouth or six years of intravenous treatment.

For those with osteoporosis but who have not had a fracture evidence does not support a reduction in fracture risk with risedronate or etidronate. Alendronate decreases fractures of the spine but does not have any effect on other types of fractures. Half stop their medications within a year. When on treatment with bisphosphonates rechecking bone mineral density is not needed.

Fluoride supplementation does not appear to be effective in postmenopausal osteoporosis, as even though it increases bone density, it does not decrease the risk of fractures.

Teriparatide (a recombinant parathyroid hormone) has been shown to be effective in treatment of women with postmenopausal osteoporosis. Some evidence also indicates strontium ranelate is effective in decreasing the risk of vertebral and nonvertebral fractures in postmenopausal women with osteoporosis.[Hormone replacement therapy,

while effective for osteoporosis, is only recommended in women who also have menopausal symptoms. It is not recommended for osteoporosis by itself. Raloxifene, while effective in decreasing vertebral fractures, does not affect the risk of nonvertebral fracture. And while it reduces the risk of breast cancer, it increases the risk of blood clots and strokes.Denosumab is also effective for preventing osteoporotic fractures. In hypogonadal men, testosterone has been shown to improve bone quantity and quality, but, as of 2008, no studies evaluated its effect on fracture risk or in men with a normal testosterone levels. Calcitonin while once recommended is no longer due to the associated risk of cancer with its use and questionable effect on fracture risk.

Certain medications like alendronate, etidronate, risedronate, raloxifene and strontium ranelate can be helpful for the preventing of osteoporotic fragility fractures in postmenopausal women with osteoporosis.

1.8 Treatments:

Representative treatment guidelines for postmenopausal women are summarized in Figure 4. In men, speci c guidelines are not published, however the Endocrine Society suggest a guideline for pharmacological treatment of osteoporosis in men based on a T-score of −1 or below and FRAX® scoring.127 Elderly men with low serum testosterone and a risk of fracture are advised to take testosterone and a bone protective drug such as bisphosphonate or teriparatide. Any improvement in treatment can be monitored every 1–2 years.

1.9 Physiological control of bone remodeling:

A healthy skeleton is maintained throughout life by the constant process of bone remodeling that is regulated by the balanced activities of bone-resorbing osteoclasts and bone-forming osteoblasts (Figure 1) to maintain normal physiological structure and mineral content. The bone remodeling process is completed in 4–6 months. It takes place mostly in a nontargeted manner to remove old bone and involves resorption of bone by peripheral blood-derived multinucleated osteoclasts, followed by bone formation by osteoblasts.1 Remodeling also takes place at speci c, targeted bone surfaces, which develop stress-induced microfractures attracting osteoclasts by signaling via osteocytes embedded deep within the mineralized bone.2–4 The activation of different bone cells in

the bone remodeling process is orchestrated by multiple pathways such as receptor activator of nuclear factor (NF)-□ B ligand (RANKL) and Wntsignaling pathways, and these pathways are exploited in the development of new therapies for osteoporosis.

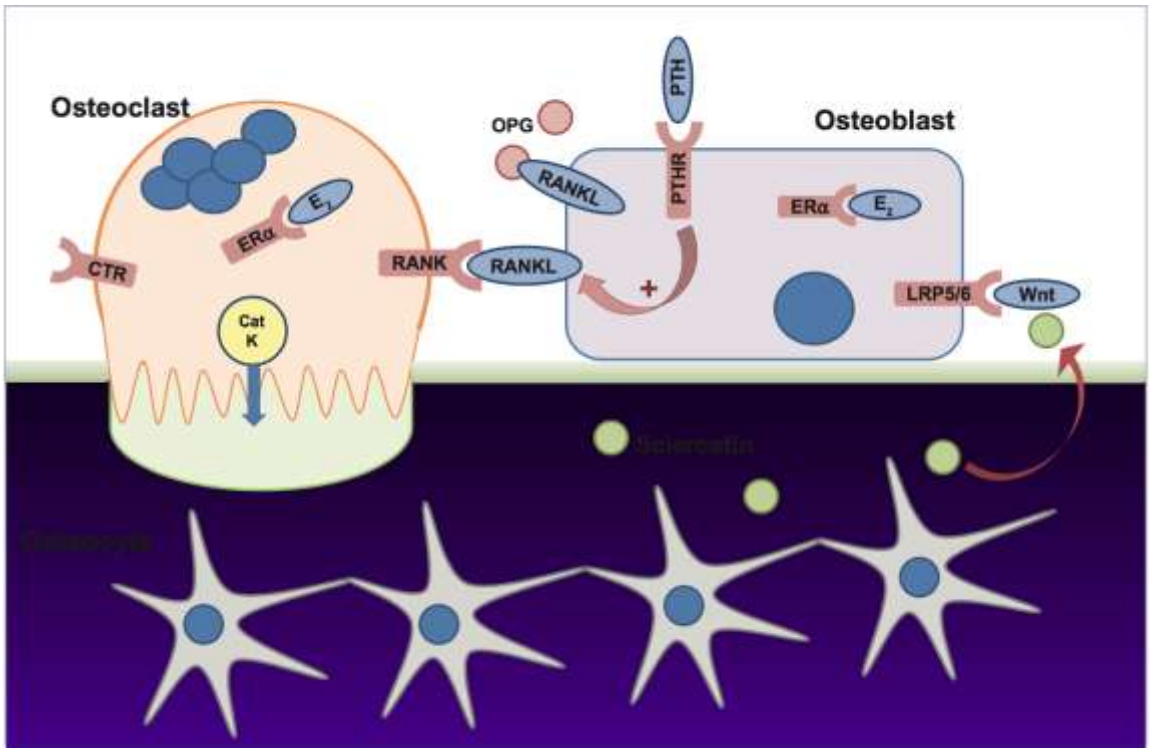

Figure1.1: Physiological control of bone remodeling

Certain medications have been associated with an increase in osteoporosis risk; only steroids and anticonvulsants are classically associated, but evidence is emerging with regard to other drugs.

Steroid-induced osteoporosis (SIOP) arises due to use of glucocorticoids – analogous to Cushing's syndrome and involving mainly the axial skeleton. The synthetic glucocorticoid prescription drug prednisone is a main candidate after prolonged intake. Some professional guidelines recommend prophylaxis in patients who take the equivalent of more than 30 mg hydrocortisone (7.5 mg of prednisolone), especially when this is in excess of three months. Alternate day use may not prevent this complication.

Barbiturates, phenytoin and some other enzyme-inducing antiepileptics – these probably accelerate the metabolism of vitamin D.

L-Thyroxine over-replacement may contribute to osteoporosis, in a similar fashion as thyrotoxicosis does. This can be relevant in subclinical hypothyroidism.

Several drugs induce hypogonadism, for example aromatase inhibitors used in breast cancer, methotrexate and other antimetabolite drugs, depot progesterone and gonadotropin-releasing hormone agonists.

Anticoagulants – long-term use of heparin is associated with a decrease in bone density, and warfarin (and related coumarins) have been linked with an increased risk in osteoporotic fracture in long-term use.

Proton pump inhibitors – these drugs inhibit the production of stomach acid; this is thought to interfere with calcium absorption. Chronic phosphate binding may also occur with aluminium-containing antacids.

Thiazolidinediones (used for diabetes) – rosiglitazone and possibly pioglitazone, inhibitors of PPARγ, have been linked with an increased risk of osteoporosis and fracture.

1.10 Duration of Osteoporosis Treatment:

As the human life span is gradually increasing, more and more elderly people are being treated for primary and secondary osteoporosis over increasing periods of time. The question arises as to whether it is necessary or clinically prudent to treat osteoporosis for many years. This is particularly relevant for bisphosphonates, which are the first choice treatment. As bisphosphonates have an apparent half-life of more than 10 years due to selective adherence to the bone surface, successive treatment over years would not only have a cumulative effect, but may actually be detrimental for bone health by preventing the cyclical changes required to maintain normal bone architecture.128 In a recent report from the FDA, it was suggested that, based on evidence from three long-term clinical trials, patients are unlikely to bene t from continued treatment with bisphosphonates beyond 3–5 years, and it was difficult to predict how long the beneficial effect of bisphosphonates would remain after discontinuation of therapy. One alternative is to stop bisphosphonate therapy for a drug.(Chih-Ching Lin et. al., 2013)

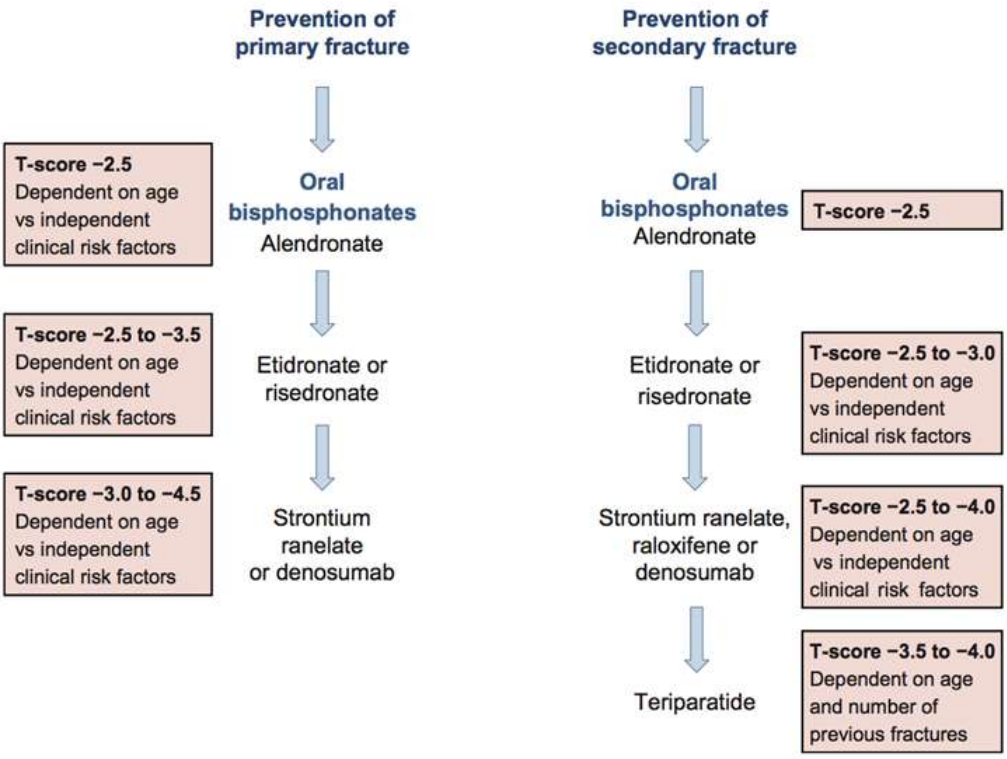

Figure1.2: Osteoporosis Treatment

Chapter 2

Objective of the Study

2.1 Research Objective:

The objective of this study is to analyze the knowledge, attitude and practice treatment patternof osteoporosis is among general population in Dhaka city, Bangladesh

Chapter 3

Methodology

3.1 Study population:

The survey was performed on 151 people.

3.2 Statistical analysis:

The data were coded, entered and analyzed using the Microsoft excel 2010. Descriptive result was expressed as percentage and plotted with pie chart. The variables of the study are age gender etc.

3.3 Survey Area:

Survey was performed among the general people of Bangladesh.

Chapter 4

Result

Variables		n(%)
Sex	Female	88 (58%)
	Male	63 (42%)
Marital Status	Single	39 (26%)
	Married	112 (74%)
	Divorced	0%
Education level	Illiterate	31 (21%)
	Primary	5 (3%)
	Secondary	12 (8%)
	College	45 (29%)
	Graduate	40 (26%)
	Post Graduate	18 (12%)
Occupation	Govt. employee	3 (2%)
	Private employee	55 (37%)
	Private business	22 (15%)
	Housewife	40 (27%)
	Student	28 (19%)
	Retired	2 (1%)
Living with family	Yes	110 (73%)
	No	41 (27%)
Do you know what osteoporosis is	Yes	96 (64%)
	No	55 (36%)
Do you have a family history of osteoporosis	Yes	57 (38%)
	No	94 (62%)
Do you have a maternal history of osteoporosis	Yes	50 (33%)
	No	101 (67%)
Do you have a maternal history of fracture?	Yes	45 (30%)
	No	106 (70%)
Major types of osteoporosis	1	23 (15%)
	2	23 (15%)
	3	105 (70%)
	Don’t have any idea	0%
Have you diagnosis with bone	Yes	30 (20%)

problem	No	121(80%)
Are you postmenopausal	Yes	34 (23%)
	No	117 (77%)
History of fracture since 45	Any fracture	18 (12%)
	Hip	61 (40%)
	Rib	12 (8%)
	Wrist	18 (12%)
	Spine	42 (28%)
Do you smoke cigarette	Never smoked	92 (61%)
	Past smoker	15 (9%)
	Current smoker	44 (29%)
Are you suffering from osteoporosis	Yes	54 (36%)
	No	97 (64%)
Main factor that influence bone density	Calcium intake during childhood	30 (20%)
	Calcium intake during adolescence	78% (52%)
	Calcium intake during early adulthood	43 (28%)
Sources of osteoporosis Knowledge	Doctors	55 (35%)
	Nurses	1(1%)
	Pharmacist	62 (40%)
	Electronic Media	4 (3%)
	Published media	19 (13%)
	Friends and family	5 (3%)
	Health educator	5 (3%)

4.1 Education:

Among 151 surveyed people's Education level was, Illiterate 3%, Primary 3%, Secondary 8%, College 30%, Graduate 44%, Post Graduate 12%

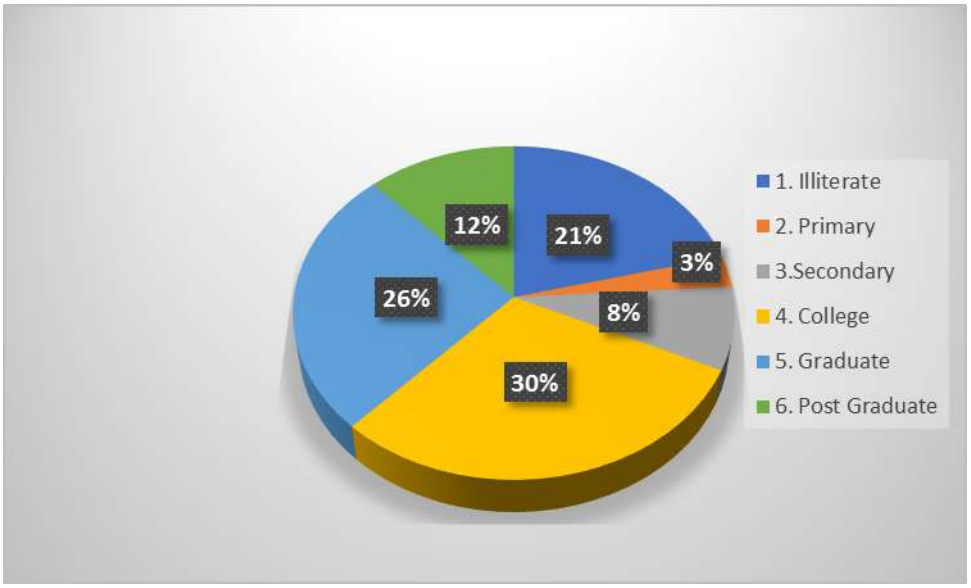

Figure 4.1: Education

4.2 Sex:

Among 151 surveyed people male was 42% and female was 58%

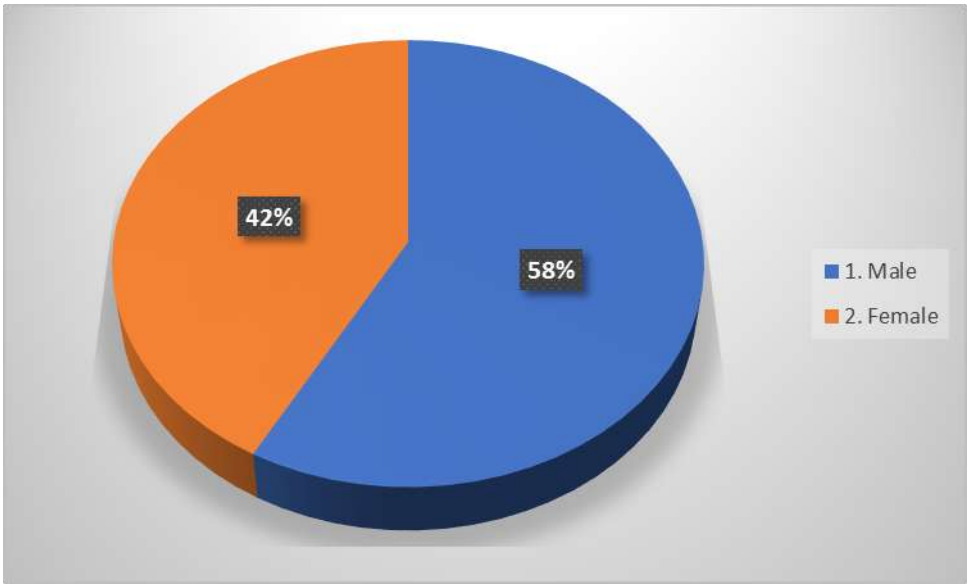

Figure4.2: Sex

4.3 Marital Status:

Among 151 surveyed people marital status are, single 26% and married 74%.

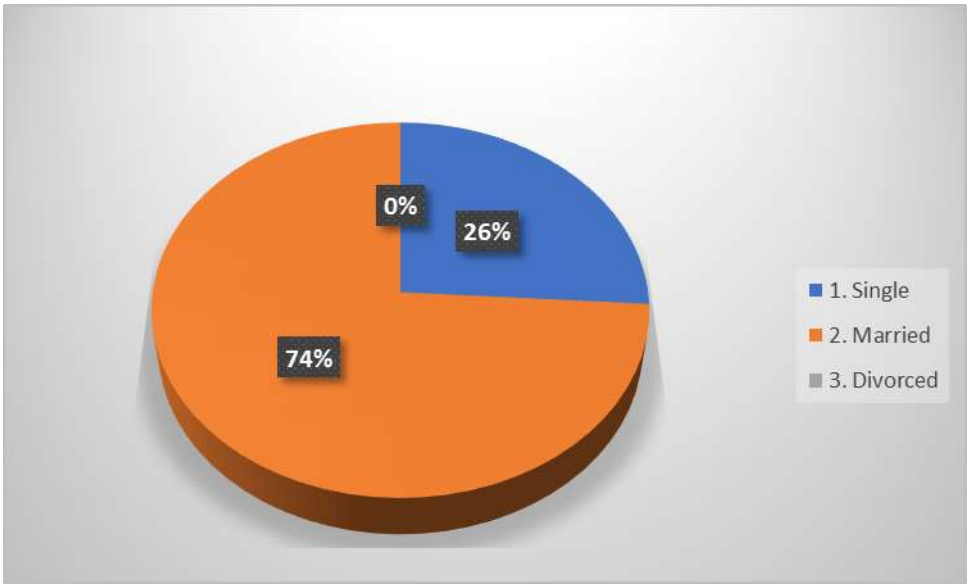

Figure 4.3: Marital Status.

4.4 Occupation:

Occupation percentage among 151 surveyed people are, Govt. employee 2%, Private employee 36%, Private business 15%, Housewife 27%, Student 19%, Retired 1%.

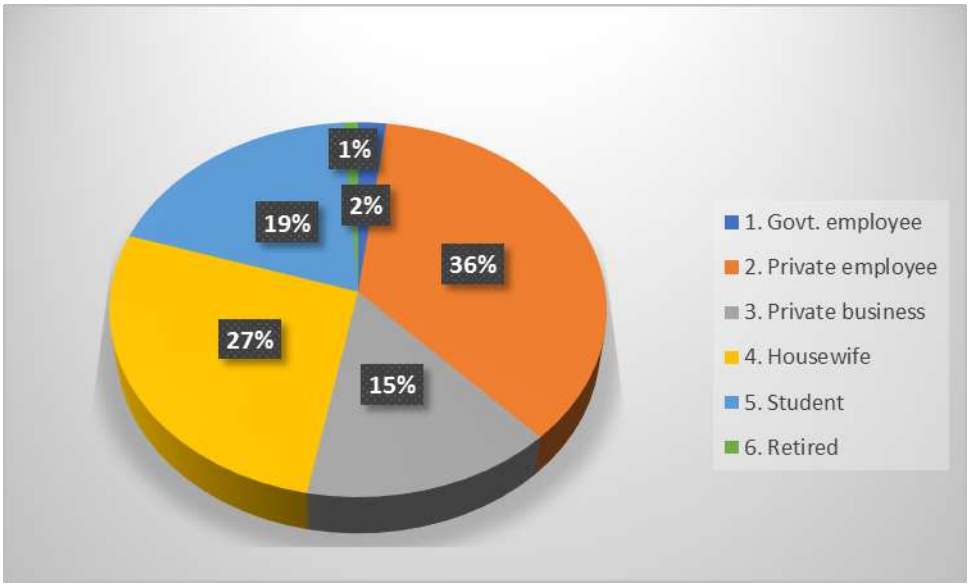

Figure 4.4: Occupation

4.5 Living with family

After analysis 73% people who has osteoporosis, they lived with family and 27% people doesn't lived with family.

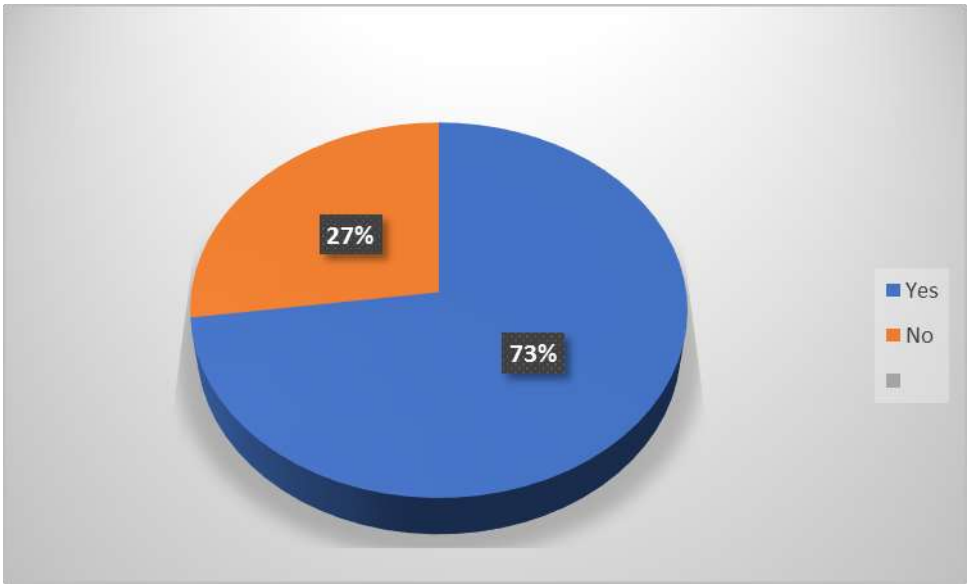

Figure 4.5: Living with family

4.6 How many people know what osteoporosis is:

Osteoporosis is a common disease and most of the people know about this.Here 64% people know and 36% people don't know about this.

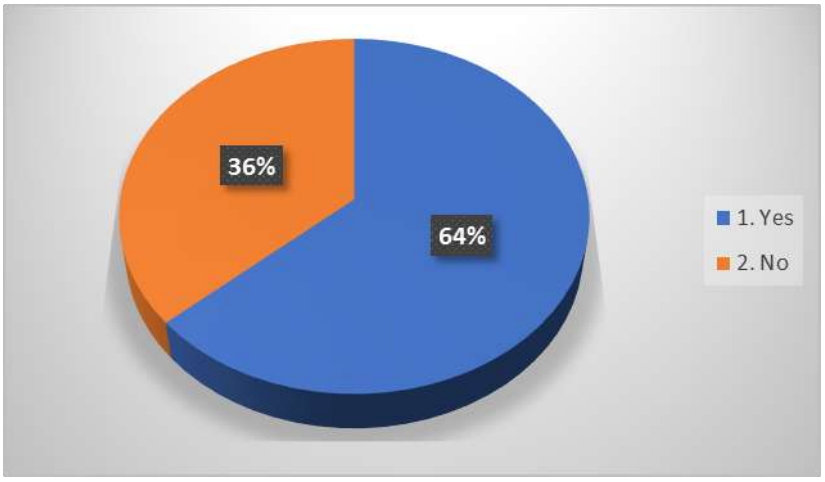

Figure 4.6: Do you know what op is

4.7 Family History:

Family history is not an issue for this disease. Among surveyed people 38% has family history and 62% people has no family history of this disease.

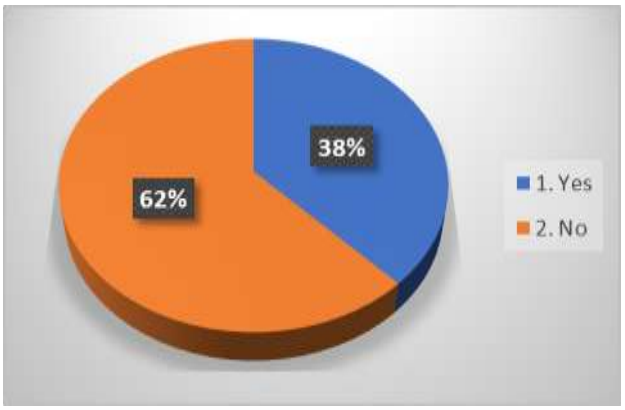

Figure 4.7: Do you have a family history of OP

4.8 Major types of Osteoporosis:

Among 151 surveyed people, major types of osteoporosis disease are, Type1 0%, Type2 15%, Type3 15%, Don't have any idea 70%.

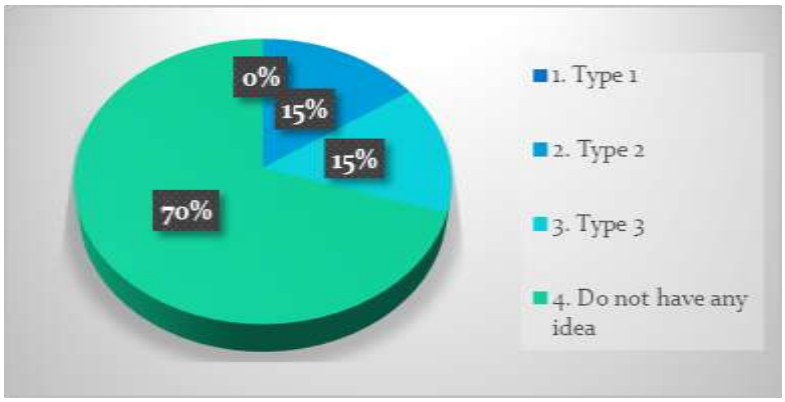

Figure 4.8: major types of OP

4.9 Diagnosed with bone problem:

Most of the people don't Diagnosed with bone problem. From survey, 20% people do diagnose and 80% people doesn't diagnosed.

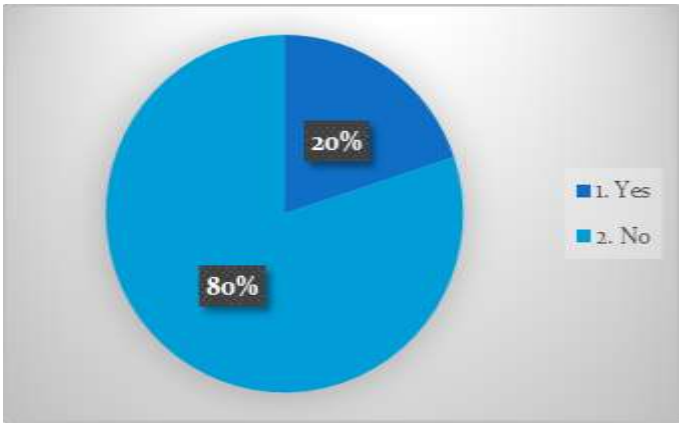

Figure 4.9: Have you diagnosed with bone problem

4.10 Post menopause:

23% people has post menopause and rest of people don't have.

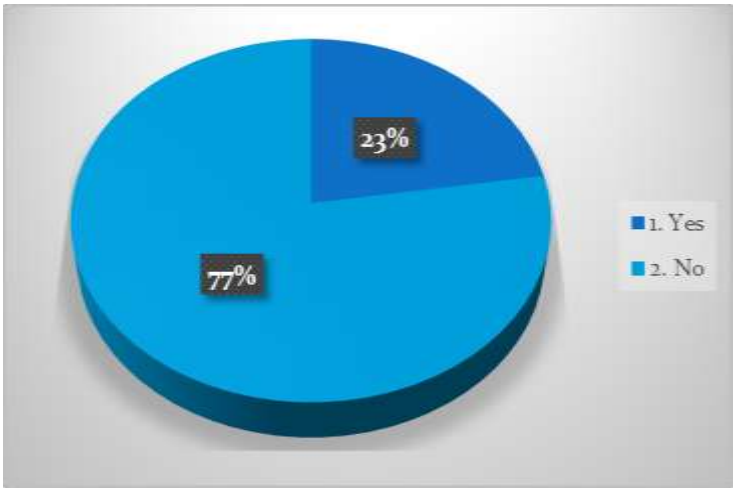

Figure 4.10: Are you post menopause

4.11 History of fracture since 45:

Any fracture 12%, Hip 40%, Rib 8%, Wrist 12%, Spine 28% among 151 people's survey.

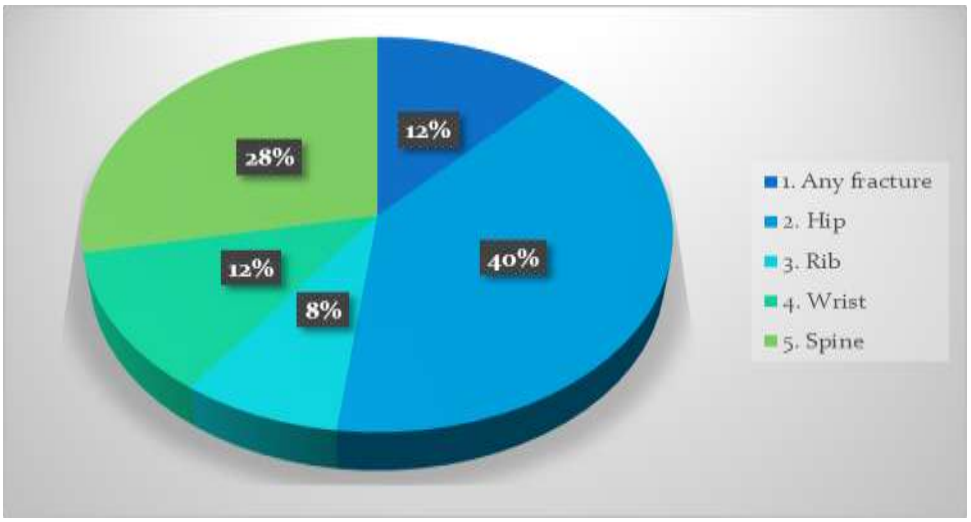

Figure 4.11: History of fracture since 45

4.12 Are you suffering from Osteoporosis:

After asking people we found 64% people suffering and 36% people don't suffering.

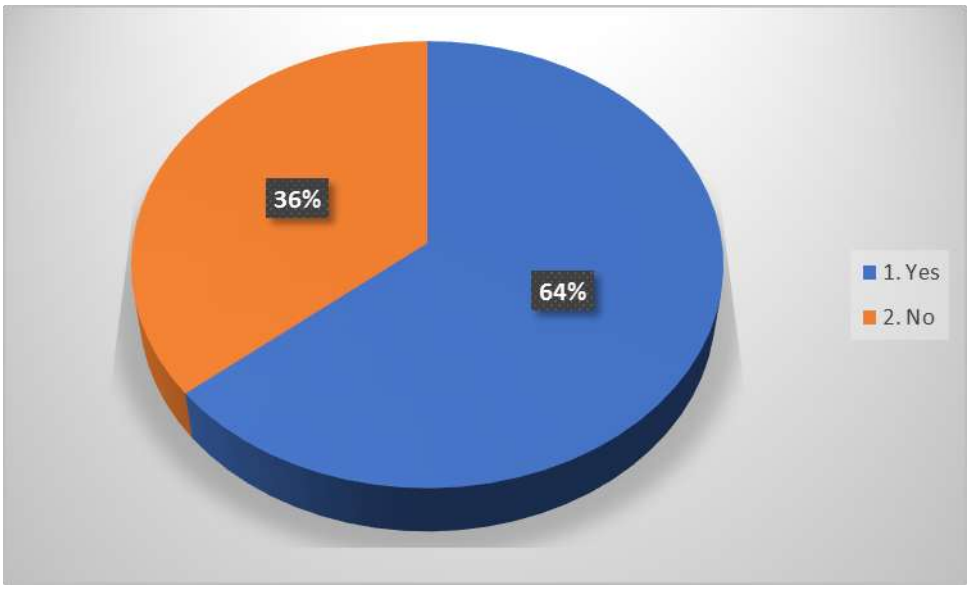

Figure: 4.12: Are you suffering from OP

4.13 Main factor that influence bone density

Main factor that influence bone density, 20$ calcium intake during childhood, 28% calcium intake during early adulthood and rest of are calcium intake during adolescence.

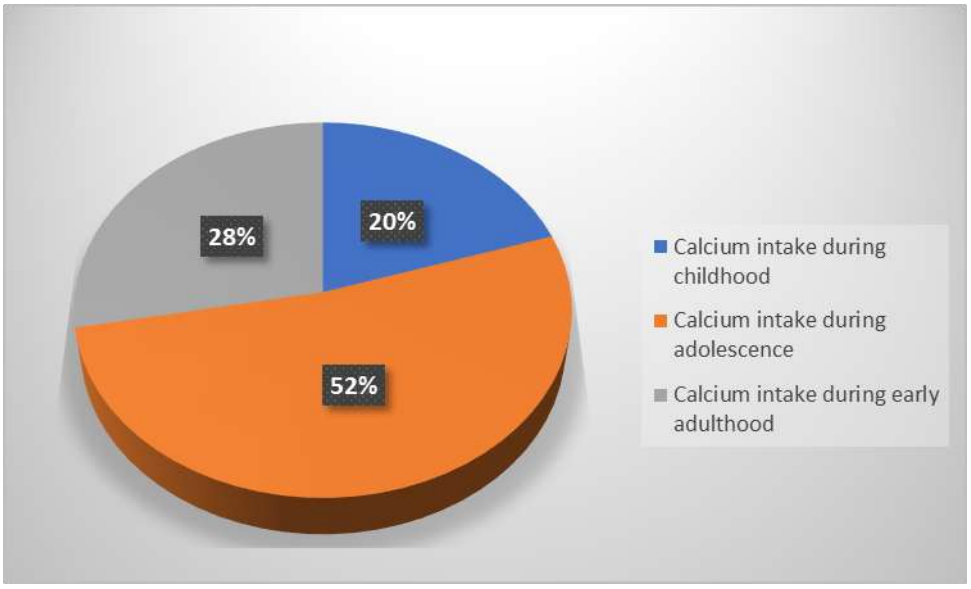

Figure: 4.13 Main factor that influence bone density

4.14 Sources of osteoporosis knowledge:

Among 151 surveyed people we have found different sources of osteoporosis knowledge. Here Doctors 35%, Nurses 1%, Pharmacist 40%, Electronic Media 3%, Published media 13%, Friends and family 3%, Health educator 3%, Dieticians 3%

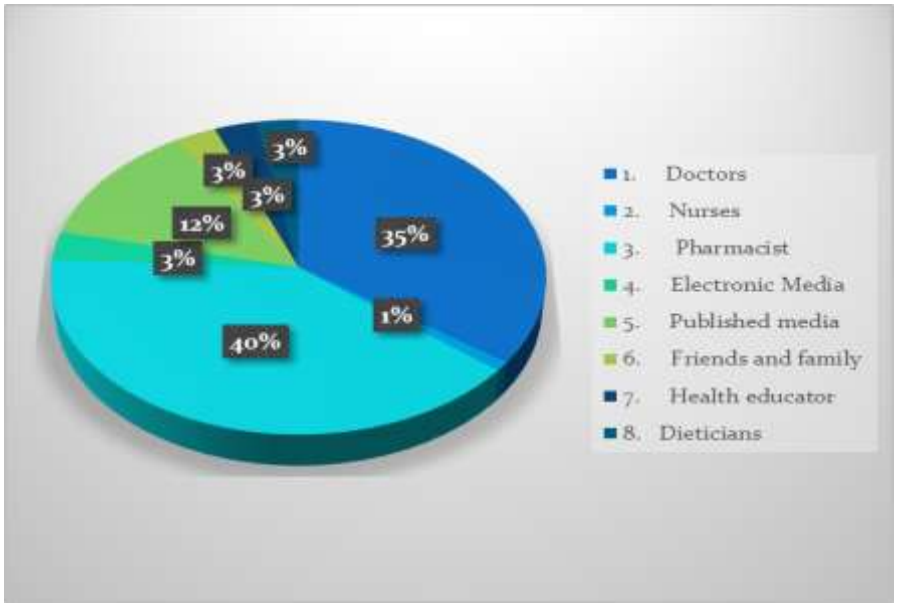

Figure 4.13: Sources of OP knowledge

4.15 Do you know risk factors of OP:

Most of the people don't know the risk factors of osteoporosis

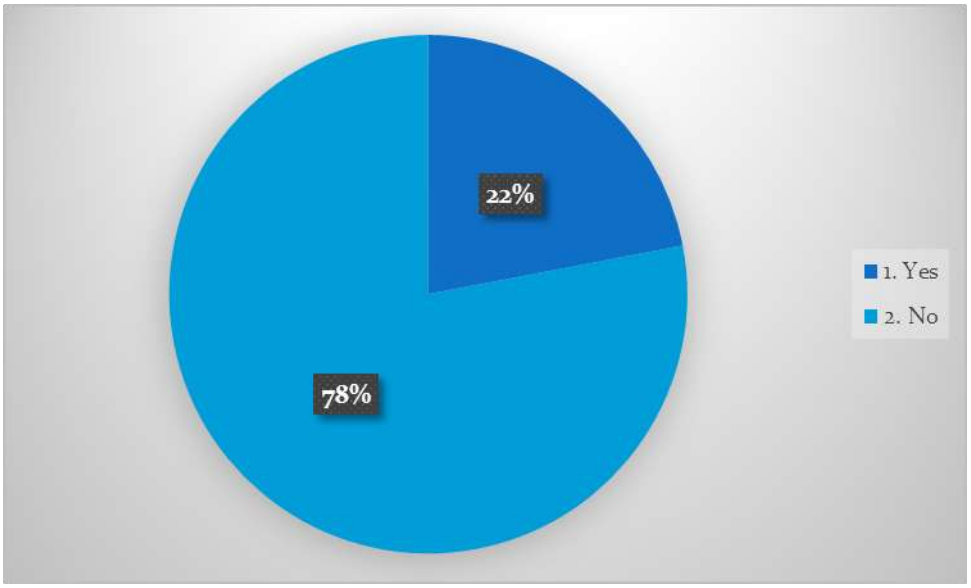

Figure 4.14: Do you know risk factors of OP

4.16 Adequate calcium consumption(>1200mg/day):

Adequate calcium consumption (>1200mg/day) among 151 people only 7% never do it, sometimes 66% and always 27% people.

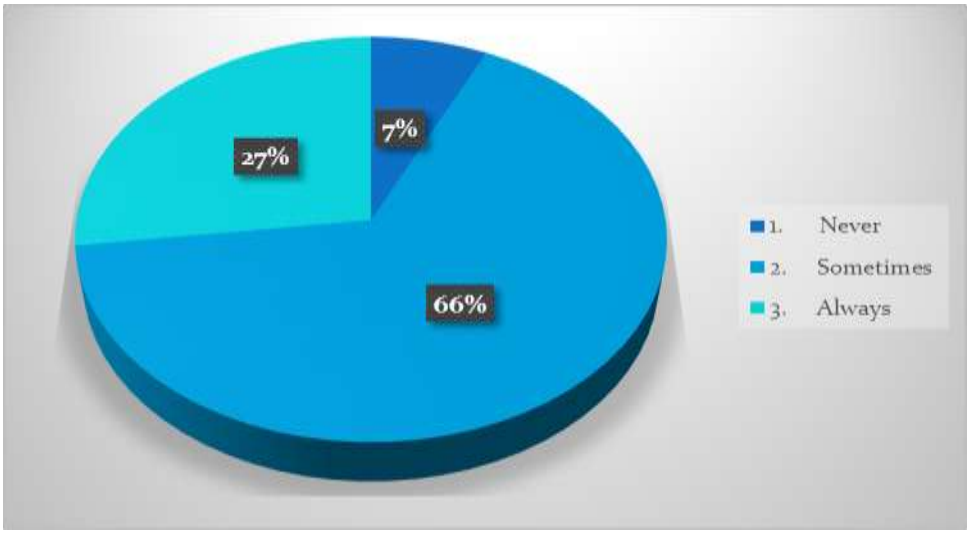

Figure 4.16:Adequate calcium consumption (>1200mg/day)

4.17 Do you smoke Cigarette

After survey we found 61% people never done smoke, 29% people are current smoker, and10% people current smoker.

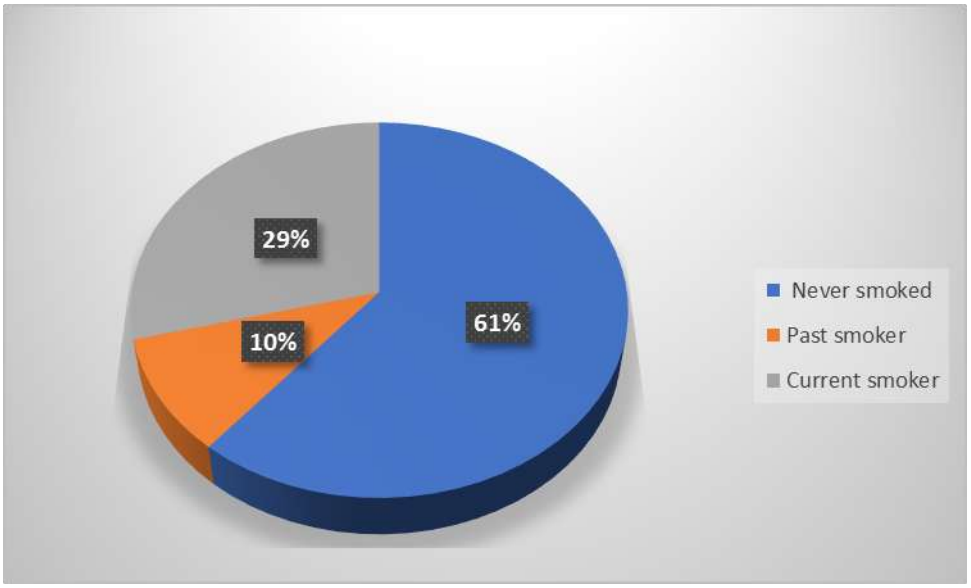

Figure 4.17: Do you smoke Cigarette

4.18 Are you concerned about getting osteoporosis

Only 25% people are concerned about osteoporosis. And 75% of people are not concerned about osteoporosis.

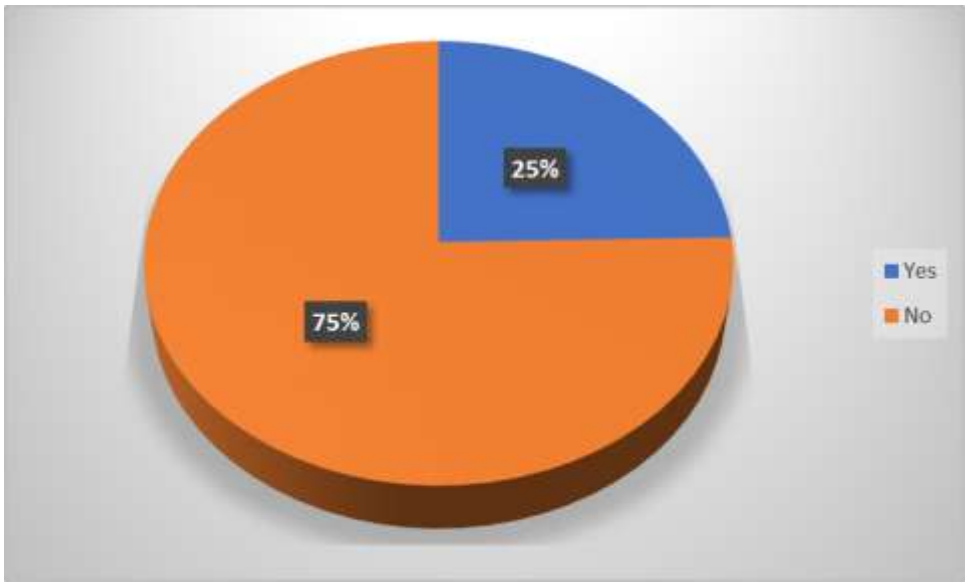

Figure4.18: Are you concerned about getting osteoporosis

4.19 Osteoporosis is more prone to

Only 5% people are male how is prone to osteoporosis, 34% people are female and 61% both gender equally.

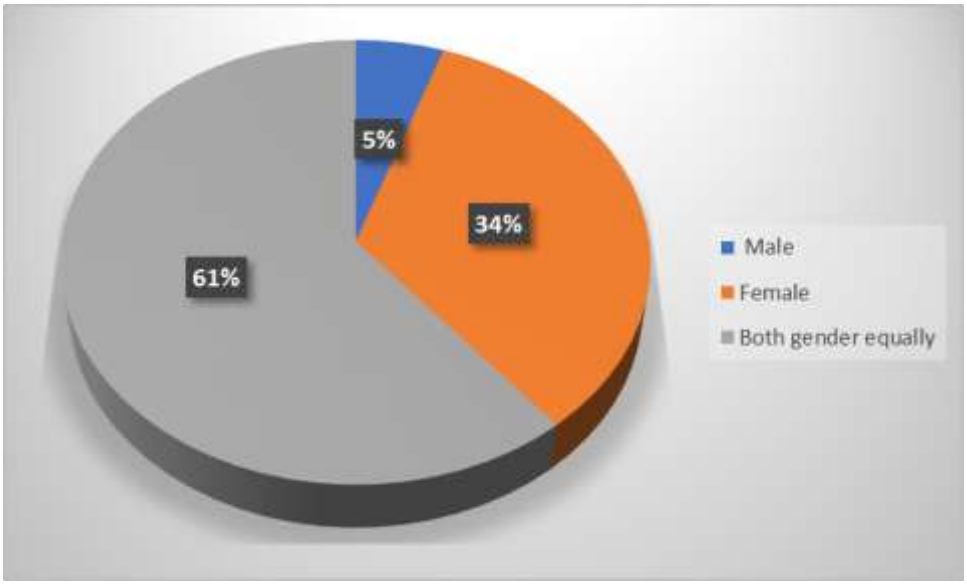

Figure4.19: Osteoporosis is more prone to

4.20 Sources of osteoporosis knowledge

People can know from different place about osteoporosis and as per our survey we have found 41% pharmacist, 36% Doctors, 1% nurse, 3% electronic media, 13% published media, and 3% from family.

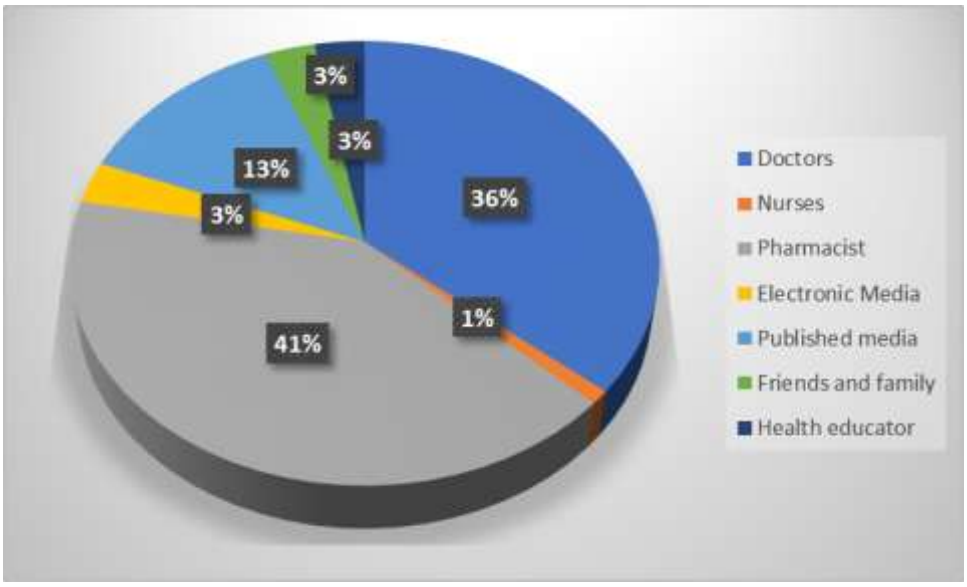

Figure4.20Sources of osteoporosis knowledge

Chapter 5

Discussion

5.1 Study Discussion:

Among 151 surveyed people's Education level was, Illiterate 3%, Primary 3%, Secondary 8%, College 30%, Graduate 44%, Post Graduate 12%. Among 151 surveyed people male was 42% and female was 58%. Among 151 surveyed people marital status are, single 26% and married 74%. Occupation percentage among 151 surveyed people are, Govt. employee 2%, Private employee 36%, Private business 15%, Housewife 27%, Student 19%, Retired 1%. After analysis 73% people who has osteoporosis, they lived with family and 27% people doesn't lived with family. Osteoporosis is a common disease and most of the people know about this.Here 64% people know and 36% people don't know about this. Family history is not an issue for this disease. Among surveyed people 38% has family history and 62% people has no family history of this disease. Among 151 surveyed people, major types of osteoporosis disease are, Type1 0%, Type2 15%, Type3 15%, Don't have any idea 70%. Most of the people don't Diagnosed with bone problem. From survey, 20% people do diagnose and 80% people doesn't diagnosed. Among 151 surveyed people, major types of osteoporosis disease are, Type1 0%, Type2 15%, Type3 15%, Don't have any idea 70%. Any fracture 12%, Hip 40%, Rib 8%, Wrist 12%, Spine 28% among 151 people's survey. Main factor that influence bone density, 20% calcium intake during childhood, 28% calcium intake during early adulthood and rest of are calcium intake during adolescence. Among 151 surveyed people we have found different sources of osteoporosis knowledge. Here Doctors 35%, Nurses 1%, Pharmacist 40%, Electronic Media 3%, Published media 13%, Friends and family 3%, Health educator 3%, Dieticians 3%. Adequate calcium consumption (>1200mg/day) among 151 people only 7% never do it, sometimes 66% and always 27% people. People can know from different place about osteoporosis and as per our survey we have found 41% pharmacist, 36% Doctors, 1% nurse, 3% electronic media, 13% published media, and 3% from family.
Only 25% people are concerned about osteoporosis. And 75% of people are not concerned about osteoporosis. Only 5% people are male how is prone to osteoporosis, 34% people are female and 61% both gender equally.

Although older people who sustain a hip fracture are at increased risk of death and suffer long term disability throughout the world, the report indicates that this problem is far more severe in the Russia Federation and in many other countries of the region. Professor Olga Lesnyak, Vice-President of the Russian Association on Osteoporosis and author of

the report, called for action, “There is an urgent need for health care providers to improve post hip fracture surgical care, “she said. While in Western Europe most hip fracture patients receive operative treatment (the optimal standard of care), in the Russian Federation there is an extremely low rate of surgical treatment. Consequently there is high mortality rate after a hip fracture, reaching up to 45-52% during the first year after fracture in some Russian cities. Of the surviving hip fracture patients, 33% remain bed-ridden and 42% are capable of only very limited activities. Only 9% are able to return to the same level of daily activity as they had before their fracture. Among 200 surveyed people male was 39% and female was 64%. Among 151 surveyed people marital status are, single 23% and married 64%. Occupation percentage among 200 surveyed people are, employee 46%, Private business 25%, Housewife 17%, Student 15%. After analysis 67% people who has osteoporosis, they lived with family and 23% people doesn’t lived with family. Osteoporosis is a common disease and most of the people know about this.Here 75% people know and 24% people don’t know about this.
Family history is not an issue for this disease. Among surveyed people 27% has family history and 78% people has no family history of this disease.

Among 200 surveyed people, major types of osteoporosis disease are, Type1 5%, Type2 35%, Type3 38%, Don’t have any idea 20%.Among 200 people 67% know about the risk factor and 45% don’t know about the risk factor. 65% of women, given the choice, would prefer to take tablets less frequently. In Ireland, this was 92%, significantly higher than in all the other countries

Over one in three (39%) of women would not tell their doctor if they decided to stop taking their treatment, and over half (54%) would not tell their doctor if they missed taking one of their tablets

Of those who are compliant with their medication, a key reason for this is the concern about height loss, as expressed by 61% of women

About one half of women with PMO (48%) have received advice from their doctors about different treatment options, with Germany (58%) and Spain (53%) ranking the highest and the UK (39%) scoring the lowest

43% of women claimed that their doctor had given them the option to change their treatment to one that suited them better – again more so in Germany (53%) and Spain (42%) and less in UK (39%) and Ireland (27%). Less than half of women (41%) have received advice from their doctors about the different types of treatments i.e. tablet once a month, quarterly or yearly IV injections (with Ireland (7%) ranking the lowest in terms of receiving advice from doctors) . Personal appearance and self-confidence. Seven out of 10 (70%) women interviewed believe that 'losing height is just part of getting old'. Approximately three quarters (73%) claimed that they would be very self conscious if their spine was curved 64% were about the thought of losing height. Almost one in four (24%) are more worried about the impact osteoporosis has on their appearance rather than the internal effects of the condition. 79% of women with post-menopausal osteoporosis (PMO) believed that common perceptions held by the general public of women who have osteoporosis (who have lost height and a stoop) associate them with being 'elderly/old'. Furthermore 76% stated 'fragile' followed by 'vulnerable' (73%), 'frail' (70%) and 'unstable' (64%). 81% of women with PMO feel that they make an effort to keep themselves looking good for their age.

Awareness of the factors that can increase the risk of fractures.

- Over one in five (21%) are unaware that taking prescribed treatment for osteoporosis reduces the risk of fractures
- Similarly, 22% are also unaware of the risks of fractures associated with frequently falling or being significantly overweight and almost one third (30%) are unaware of the associated risks with being significantly underweight

Lifestyle limitations of living with osteoporosis:

- Osteoporosis can affect independence through interfering with daily tasks – six out of 10 (60%) of women overall (75% in Germany and 70% in UK have already had to stop carrying heavy shopping bags due to their osteoporosis)
- Furthermore one in three (33%) of women have had to stop running and weight bearing exercise and a further 20-24% have had to stop cycling, gardening and taking exercise classes.

1.2 Conclusion:

Currently, bisphosphonates are the mainstay treatment for osteoporosis. Although there are concerns about their long-term effect, they are one of the safest drugs because of very short serum half-life (4 mg/5 min intravenous infusion reaching less than 1% of initial serum concentration at 24 hours postadministration) and high tissue specificity. Moreover, since alendronate is now off-license and therefore a generic drug, it is far cheaper compared with other available treatments for osteoporosis. As described in this review, there are a wide range of alternatives to the use of bisphosphonates, for those individuals who are unable to tolerate or are contraindicated for bisphosphonates. In addition, there are exciting new treatment options on the horizon, the development of which have followed directly from the identification of key molecules critical to the maintenance of a healthy skeleton.

Chapter 8

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