



VOLUME 1 | 2009

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International Journal of Collaborative Research on Internal Medicine & Public Health



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Coronavirus and its structure

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Introduction

Coronaviruses are a set of associated RNA viruses that purpose illnesses in mammals and birds. In people and birds, they purpose breathing tract infections which can variety from moderate to deadly. Mild ailments in people encompass a few instances of the not un usual place bloodless (which is likewise resulting from different viruses, predominantly rhinoviruses), whilst extra deadly types can purpose SARS, MERS, and COVID-19. In cows and pigs they purpose diarrhea, whilst in mice they purpose hepatitis and encephalomyelitis. Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first known case was identified in Wuhan, China in December 2019. The disease has since spread worldwide, leading to an ongoing pandemic. Preventive measures include physical or social distancing, quarantining, and ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The use of face masks or coverings has been recommended in public settings to minimize the risk of transmissions.

Structure

Coronaviruses represent the subfamily Orthocoronavirinae, with inside the own circle of relatives Coronaviridae, order Nidovirales, and realm Ribavirin. They are enveloped viruses with a positive-experience single-stranded RNA genome and a nucleocapsid of helical symmetry. The genome length of coronaviruses degrees from about 26 to 32 kilobases, one in all the most important amongst RNA viruses. They have function club-formed spikes that challenge from their floor, which in electron micrographs create an photograph paying homage to the sun corona, from which their call derives. Coronaviruses are large, kind of round debris with specific floor projections. Their length is tremendously variable with common diameters of eighty to one hundred twenty nm. Extreme sizes are recognized from 50 to two hundred nm in diameter. The overall molecular mass is on common 40,000 kDa. They are enclosed in an envelope embedded with some of protein molecules. The lipid bilayer envelope, membrane proteins, and nucleocapsid defend the virus whilst it's miles out of doors the host cell. The viral envelope is made of a lipid bilayer wherein the membrane (M), envelope (E) and spike (S) structural proteins are anchored. The molar ratio of E:S:M with inside lipid bilayer is about 1:20:300. The E and M protein are the structural proteins that blended with the lipid bilayer to form the viral envelope and preserve its length. S proteins are wished for interplay with the host cells. But human coronavirus NL63 is ordinary in that its M protein has the binding web website online for the host cell, and now no longer its S protein. The diameter of the envelope is eighty five nm. The envelope of the virus in electron micrographs seems as a wonderful pair of electron-dense shells (shells which can be quite opaque to the electron beam used to test the virus particle). The M protein is the principle structural protein of the envelope that offers the general form and is a kind III membrane protein. It includes 218 to 263 amino acid residues and bureaucracy a layer 7.eight nm thick. It has 3 domains, a brief N-terminal ectodomain, a triple-spanning transmembrane area, and a C-terminal endodomain. The C-terminal area bureaucracy a matrix-like lattice that provides to the extra-thickness of the envelope. Different species will have both N- or O-connected glycan's of their protein amino-terminal area. The M protein is essential in the course of the assembly, budding, envelope formation, and pathogenesis tiers of the virus lifecycle. Although the not unusualplace bloodless is typically resulting from rhinoviruses, in approximately 15% of instances the purpose is a coronavirus.

Conclusion

The human coronaviruses HCoV-OC43, HCoV-HKU1, HCoV-229E, and HCoV-NL63 always flow into with inside the human populace in adults and kids international and convey the normally moderate signs of the not unusualplace bloodless. The 4 moderate coronaviruses have a seasonal prevalence going on with inside the wintry weather months in temperate climates. There isn't any preponderance in any season in tropical climates.

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Diagnosis of PCOD and the Diet to be taken

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Introduction

Polycystic ovary syndrome, or PCOS, is the maximum not unusual place endocrine sickness in girls of reproductive age. A assessment of the global incidence of PCOS discovered that the superiority of PCOS might be as excessive as 26% amongst a few populations. Despite its incidence, the precise motive of PCOS stays uncertain. Its number one traits encompass hyperandrogenism, anovulation, insulin resistance, and neuroendocrine disruption. The syndrome is called after the function cysts which can also additionally shape at the ovaries, alven though it's far vital to word that that is a symptom and now no longer the underlying motive of the sickness.

Diet to be taken

Signs and signs of PCOS encompass abnormal or no menstrual periods, heavy periods, extra frame and facial hair, acne, pelvic pain, trouble getting pregnant, and patches of thick, darker, velvety pores and skin Associated situations encompass kind two diabetes, obesity, obstructive sleep apnea, coronary heart ailment, temper disorders, and endometrial cancer. This ailment is associated with the wide variety of follicles in keeping with ovary every month developing from the common variety of 6 to eight to double, triple or greater. Not everybody with PCOS has polycystic ovaries (PCO), nor does everybody with ovarian cysts have PCOS; even though a pelvic ultrasound is a primary diagnostic tool, it isn't always the best one. The analysis is easy the use of the Rotterdam criteria, even if the syndrome is related to a huge variety of signs. Where PCOS is related to obese or obesity, a success weight reduction is the only approach of restoring ordinary ovulation/menstruation. The American Association of Clinical Endocrinologists suggestions propose a purpose of attaining five to 15% weight reduction or greater, which improves insulin resistance and all hormonal disorders. However, many girls discover it very hard to acquire and maintain large weight reduction. Insulin-resistance itself can motive multiplied meals cravings and decrease electricity degrees that could make it hard to shed pounds on a everyday weight loss weight-reduction plan.

A clinical assessment in 2013 discovered comparable decreases in weight and frame composition and enhancements in being pregnant rate, menstrual regularity, ovulation, hyperandrogenism, insulin resistance, lipids, and nice of lifestyles to arise with weight reduction unbiased of weight-reduction plan composition. still, a low GI weight-reduction plan, wherein a large a part of general carbohydrates are acquired from fruit, vegetables, and whole-grain sources, has ended in more menstrual regularity than a macronutrient-matched wholesome weight-reduction plan. Vitamin D deficiency can also additionally play a few position with inside the improvement of the metabolic syndrome, so remedy of such a deficiency is indicated. However, a scientific assessment of 2015 discovered no proof that diet D supplementation decreased or mitigated metabolic and hormonal de regulations in PCOS. As of 2012, interventions the use of nutritional dietary supplements to accurate metabolic deficiencies in human beings with PCOS were examined in small, out of control and nonrandomized medical trials; the ensuing statistics is inadequate to propose their use.

Conclusion

Medications for PCOS encompass oral contraceptives and metformin. The oral contraceptives growth intercourse hormone binding globulin production, which will increase binding of unfastened testosterone. This reduces the signs of hirsutism resulting from excessive testosterone and regulates go back to ordinary menstrual periods. Metformin is a medicinal drug normally utilized in kind 2 diabetes mellitus to lessen insulin resistance, and is used off label (with inside the UK, US, AU and EU) to deal with insulin resistance visible in PCOS. In many cases, metformin additionally helps ovarian feature and go back to ordinary ovulation. Spironolactone may be used for its anti-androgenic effects, and the topical cream eflornithine may be used to lessen facial hair. A more modern insulin resistance medicinal drug class, the thiazolidinediones (glitazones), have proven equal efficacy to metformin, however metformin has a greater favorable aspect impact profile.

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Drug Usage and Its Side Effects

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Introduction

A drug is any substance that reasons a extrade in an organism's body structure or psychology while consumed. Drugs are normally prominent from meals and materials that offer dietary support. Consumption of medicine may be thru inhalation, injection, smoking, ingestion, absorption thru a patch at the skin, suppository, or dissolution beneath neat the tongue. In pharmacology, a drug is a chemical substance, normally of acknowledged structure, which, while administered to a dwelling organism, produces a organic impact. A pharmaceutical drug, additionally known as a remedy or medication, is a chemical substance used to deal with, cure, save you, or diagnose a ailment or to sell properly-being.

Traditionally tablets have been acquired via extraction from medicinal plants, however greater lately additionally via way of means of natural synthesis. Pharmaceutical tablets can be used for a restrained duration, or on a everyday foundation for continual disorders. Pharmaceutical tablets are frequently categorised into drug training—businesses of associated tablets which have comparable chemical structures, the equal mechanism of action (binding to the equal organic target), a associated mode of action, and which can be used to deal with the equal ailment. The Anatomical Therapeutic Chemical Classification System (ATC), the maximum broadly used drug class gadget, assigns tablets a completely unique ATC code, that's an alphanumeric code that assigns it to particular drug training in the ATC gadget.

Its Side Effects

Another primary class gadget is the Bio pharmaceuticals Classification System. This classifies tablets in step with their solubility and permeability or absorption properties. There are several governmental places of work in many nations that cope with the manage and oversee of drug manufacture and use, and the implementation of diverse drug laws. The Single Convention on Narcotic Drugs is a worldwide treaty delivered approximately in 1961 to restrict the usage of narcotics store for the ones utilized in clinical studies and treatment. In 1971, a 2nd treaty the Convention on Psychotropic Substances needed to be added to cope with more recent leisure psychoactive and psychedelic tablets. The criminal repute of *Salvia divinorum* varies in many nations or even in states in the United States. Where it's miles legislated towards the diploma of prohibition additionally varies. The Food and Drug Administration (FDA) with inside the United States is a federal organization answerable for defensive and selling public fitness via the law and supervision of meals protection, tobacco products, nutritional supplements, prescription and over the counter medications, vaccines, biopharmaceuticals, blood transfusions, clinical devices, electromagnetic radiation emitting devices, cosmetics, animal ingredients and veterinary tablets. In India, the Narcotics Control Bureau (abbr. NCB), an Indian federal regulation enforcement and intelligence organization beneathneath the Ministry of Home Affairs, Government of India is tasked with fighting drug trafficking and supporting worldwide use of unlawful materials beneath neath the provisions of Narcotic Drugs and Psychotropic Substances Act. From the homely aspirin to the maximum state-of-the-art prescription medication at the market, all tablets include facet consequences. Many are minor, a few are simply an inconvenience, some are severe, and a few are simply simple strange. An allergy may want to appear with any drug. That can variety from itching and rash all of the manner to a life-threatening anaphylactic reaction. Some tablets

can't assist however cause facet consequences due to their chemical structure.

Conclusion

Typically, warfarin (Coumadin, Jantoven), used to save you blood clots, typically works properly and isn't always bother some, however severe inner bleeding can appear with inside the incorrect situation. Side consequences might also additionally display up handiest while a drug is blended with positive different things. This is probably known as a drug interaction. For instance, consuming alcohol even as you are taking narcotic painkillers can reason an unintended overdose. This has caused many deaths. Another instance is grapefruit juice, which could have an effect on the blood degrees of numerous tablets, inclusive of a few blood stress and ldl cholesterol medicines. The FDA's Role Before a drug can come at the market, the FDA have to approve it. The New Drug Applications (NDAs) submitted via way of means of pharmaceutical groups have, first and foremost, proof that the drug has the impact it's imagined to have and is safe. This evidence comes from trying out the drug, first in animals after which in humans. Once the fundamental questions of protection and efficacy are settled, the FDA will approve the drug if it deems that its advantages outweigh its risks.

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Immunology and Behavioural Immunity

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Introduction

Immunology is a department of biology that covers the observe of immune device in all organisms. Immunology charts, measures, and contextualizes the physiological functioning of the immune device in states of each fitness and sicknesses; malfunctions of the immune device in immunological disorders (which includes autoimmune sicknesses hypersensitivities, immune deficiency, and transplant rejection and the physical, chemical, and physiological traits of the additives of the immune device in vitro, in situ, and in vivo. Immunology has programs in several disciplines of medicine, specifically with inside the fields of organ transplantation, oncology, rheumatology, virology, bacteriology, parasitology, psychiatry, and dermatology. symbiont-mediated defenses also are heritable throughout host generations, notwithstanding a non-genetic direct foundation for the transmission. Aphids, for example, depend on numerous extraordinary symbionts for protection from key parasites, and may vertically transmit their symbionts from figure to offspring. Therefore, a symbiont that efficiently confers safety from a parasite is much more likely to be handed to the host offspring, permitting coevolution with parasites attacking the host in a manner much like conventional immunity.

Immunotherapy

The time period became coined through Russian biologist Ilya Ilyich Mechnikov, who superior research on immunology and acquired the Nobel Prize for his paintings in 1908. He pinned small thorns into starfish larvae and observed uncommon cells surrounding the thorns. This became the energetic reaction of the frame seeking to keep its integrity. It became Mechnikov who first determined the phenomenon of phagocytosis, wherein the frame defends itself towards a overseas frame. The specificity of the bond among antibody and antigen has made the antibody an brilliant device for the detection of materials through a number of diagnostic techniques. Antibodies precise for a preferred antigen may be conjugated with an isotopic (radio) or fluorescent label or with a color-forming enzyme so that it will hit upon it. However, the similarity among a few antigens can result in fake positives and different mistakes in such checks through antibodies cross-reacting with antigens that aren't genuine matches. The observe of the interplay of the immune device with most cancers cells can result in diagnostic checks and cures with which to discover and combat most cancers. The immunology worried with physiological response feature of the immune state. Immunology is strongly experimental in normal exercise however is likewise characterised through an ongoing theoretical attitude. Many theories were recommended in immunology from the stop of the 19th century as much as the existing time. The stop of the nineteenth century and the start of the twentieth century noticed a struggle among "mobile" and "humoral" theories of immunity. According to the mobile concept of immunity, represented particularly through Elie Metchnikoff, it became cells – extra precisely, phagocytes – that had been accountable for immune responses. In contrast, the humoral concept of immunity, held through Robert Koch and Emil von Behring, amongst others, said that the energetic immune retailers had been soluble additives (molecules) observed with inside the organism's "humors" as opposed to its cells.

Conclusion

In the mid-1950s, Macfarlane Burnet, stimulated through an offer made through Niels Jerne, formulated the clonal choice concept (CST) of immunity. On the idea of CST, Burnet advanced a concept of the way an immune reaction is brought on in line with the self/non self-distinction: "self" materials

(materials of the frame) do now no longer cause detrimental immune responses, while "non self" entities (e.g., pathogens, an allograft) cause a detrimental immune reaction. The concept became later changed to mirror new discoveries concerning histocompatibility or the complex "two-signal" activation of T cells. The self/non self-concept of immunity and the self/non self-vocabulary were criticized, however stay very influential. More latest Eco immunological studies has centered on host pathogen defenses historically considered "non-immunological", including pathogen avoidance, self-medication, symbiotic-mediated defenses, and fecundity trade-offs.

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Knowledge, Attitude and Practices Regarding Diabetes and its Complications among Health Care workers in Medical College of North India

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Abstract

General awareness about diabetes among patients is important for its management and prevention of its complications. Imparting such information to the people is the responsibility of health care workers among which nursing staff has a pivotal role. Hence it becomes important that the knowledge, attitude and practice among nursing staff regarding diabetes is assessed so that they can provide optimum care to the community. Diabetes was India's seventh biggest cause of early death in 2016. Diabetes increases the susceptibility for many life threatening infections as well, that is why tuberculosis is becoming highly prevalent in this group of patients. As the incidence and prevalence of diabetes is increasing, more people will require care from health professionals. Thus health care professionals like nurses in this case have responsibility to generate basic awareness about diabetes. It is important that the nurses should have right knowledge, attitude and practice of diabetes. Diabetes involves maintaining a healthy diet, regular physical exercise, a normal body weight, and avoiding use of tobacco. Diabetes may be treated with medications such as insulin sensitizers with or without insulin. The blood pressure and maintaining proper foot and eye care are important for people with the disease.

Keywords: Diabetes; Health care; Autoimmune; Blood glucose level; Medical care; Neonatal diabetes; Alstrom syndrome

Introduction

Worldwide 425 million people have diabetes and 82 million are in the South East Asian Region itself and by 2045 this will rise to 151 million. There were over 72 million cases of diabetes in India in 2017. Around 47.3% of Indian diabetics are undiagnosed and do not know they have high blood glucose levels such that if left untreated, lead to complications like coronary artery disease, kidney failure, blindness. Diabetes was India's seventh biggest cause of early death in 2016. Diabetes increases the susceptibility for many life threatening infections as well, that is why tuberculosis is becoming highly prevalent in this group of patients. As the incidence and prevalence of diabetes is increasing, more people will require care from health professionals. Prevention and improving awareness about the disease plays very crucial role in managing these patients also reducing morbidity and mortality [1]. The quality of information they receive will depend on the knowledge and experience of the staff in diabetes care. Nurses are often the first point of contact for people seeking information on diabetes care, it would therefore seem necessary for all qualified staff to have sufficient knowledge to educate others appropriately [2]. In hospitals it is the responsibility of the staff nurses to administer insulin and to recognise potentially harmful reactions and impending hyperglycaemia or hypoglycaemia [3]. The number of hours spent in attending and taking care of patients is much more done by the nursing staff so it becomes important for them to be fully aware of the disease, symptomatology,

complications and treatment in the best way possible. Some studies have reported that hospital nurses are inadequately trained in diabetes management and particularly insulin therapy [4]. Studies have demonstrated a need for improvement in general diabetes knowledge among nurses in hospitals. This will enable nurses to convey accurate information to people with diabetes regarding their care after discharge. A multidisciplinary team consisting of a nurse, dietician, pharmacist, physician, and behaviorists is required for effective diabetes management [5]. A health care provider without proper training in diabetes, behavioural interventions, teaching, learning and counselling skills may not focus on patient's behaviour change and therefore clinical outcomes may not improve [6].

India being a poor country lacks proper facilities for embarking knowledge to patients and public who are mostly not well educated. Thus health care professionals like nurses in this case have responsibility to generate basic awareness about diabetes. It is important that the nurses should have right knowledge, attitude and practice of diabetes. A diagnostic tool like Knowledge, Attitude and Practice (KAP) questionnaire will help in understanding the beliefs, attitudes and behaviour of nurses towards diabetes. Study done among nurses in a tertiary hospital of Saudi Arabia found that there was significant gap between their perceived and actual knowledge [7]. An integrative review of 25 studies from developed and developing countries was done to synthesise nurses knowledge of diabetes and to identify factors that function as barriers and it demonstrated that there was a long standing knowledge deficit in many aspects of diabetes care [8].

The KAP survey has been conducted among general public or among patients of diabetes in India but very few survey conducted among the nursing health professionals. A study conducted among medical and nursing students regarding their knowledge, attitude and practice towards diabetic retinopathy showed that the practice knowledge needed improvement [9]. We did KAP survey on diabetes and its complications among the qualified and trained nurses working in a tertiary care medical college in Himachal Pradesh.

Objectives

Identify the knowledge gaps in the nurses, to stress the importance of accurate and adequate knowledge among the nurses and document the need of diabetes education among nurses.

Materials and Methods

Study area

Shri Lal Bahadur Shastri Government Medical College, Mandi, Himachal Pradesh , India

Study design

A cross-sectional descriptive study to examine the knowledge, attitude and practice of diabetes mellitus among nurses.

Study population

Nurses working in various departments of Shri Lal Bahadur Shastri Government Medical College

- Inclusion Criteria: Nurses who were willing to participate after consent
- Exclusion Criteria: Nurses who were not willing to participate

Tools

A modified pre designed questionnaire was used in the study and recorded. It is an adapted questionnaire from Diabetes Knowledge Test by Sandra Scheiderich developed as per the objectives and variables of the study and based on the hospital practice guidelines

Procedure

The study was explained to the nursing staff in their language. After receiving their written consent to

participate in the study the questionnaire were filled.

We included all the nursing staff working in the different departments of the hospital. A modified pre designed questionnaire was prepared which had total of 25 questions and their response options of correct was given score of 1, incorrect score of 2 and that as “I do not know” taken as 3. Institutional ethical committee approved the study and issued the letter of approval to conduct the study.

Statistical analysis

Descriptive statistical analysis has been carried out in the study. Tamil Nadu achieved such good results with lesser health workforce density, lesser hospital beds, and less Total Health Expenditure (THE). Per capita health expenditure was about one-sixth of Thailand; Government Health Expenditure was less than 1/4th of Thailand. However, OOPE was five times that of Thailand.

Both Tamil Nadu and Thailand achieved nearly 100% coverage of the population. This shows that to make the OOPE comparable to Thailand, Tamil Nadu should increase the per capita health expenditure to six times and should increase the government contribution to at least 75%.

Results and Discussion

A total of 102 nursing staff were enrolled from different departments of hospital. Demographic profile showed that most number of participants were of age 20 to 30 years (50%) followed by 30 to 40 years (33%). Most of the nursing staff (48%) had less than five years of experience followed by those with experience 10 to 15 years (21.6%). 67% had degree of general nursing and 16% were post basic BSc nursing. 36% of nursing staff was working in the medicine department followed by 17.6% in obstetric department. 75% of the participants did not have any close relative with diabetes.

Knowledge regarding the etiology of diabetes

In the study 61 (59.8%) participants knew that destruction of beta cells was the cause for Type 1 Diabetes while 40 (39.2%) gave incorrect answers. Similarly 79(77.5%) knew that reduced secretion and resistance to insulin was the cause for Type 2 diabetes while 22 (21.6%) gave incorrect answers (Table 1).

Knowledge regarding the symptoms related to diabetes

89.2% of participants knew the correct symptom of hyperglycemia (Figure 1) but only 52.9% could answer correctly the cause for hyperglycemia. Similarly only 58.8% had correct knowledge about symptom of hypoglycaemia (Figure 2) but 89.2% answered correctly the cause for hypoglycaemia.

On question about reason for a diabetic found to be unresponsive, 61.8% answered correctly due to low blood glucose (Figure3)

Knowledge regarding complications of diabetes

In the study 88.2% knew that diabetics were more prone for complications. Total 88 (86.3%) participants were aware that diabetes could lead to multisystem involvement like eyes, heart, kidneys, nervous system. On knowledge regarding effect of illness on insulin requirement 52.9% knew that illness increases the requirement of insulin while 16.7% did not know the answer.

Knowledge regarding insulin

Most of the participants (97.1%) knew that insulin was produced from pancreas. 92.2% knew the effect of insulin on glucose level in blood. 67.6% gave correct answer to the peak action of insulin and 61.8% gave correct answer regarding storage of insulin. Figure 4 shows the percentage knowledge on different types of insulin.

Knowledge on management of diabetes

It is essential to have good knowledge about the management of diabetes because this will further reduce the progression of its complications. Timely treatment with the appropriate therapy is extremely important. Regarding management of Type 1 diabetes only 56.9% said that insulin was necessary (Figure 5). while according to 64.7% participants diet and exercise were essential part of treatment of Type 2 diabetes (Figure 6). 66.7% of participants could not correctly illustrate, through the figure, sites for administration of insulin. 96.1% described the correct value of normal fasting glucose and 97.1% knew that HBA1c gave average of glucose over extended period of time.

Diabetes is an important health problem worldwide contributing to high mortality and morbidity in form of cardiovascular and other diabetes related health outcomes. Patients knowledge and management of diabetes depends a lot on the effectiveness of diabetes related care and education given to them.

Patient of diabetes have health care needs, problems related to risk of disease progression and its complications. Making patients self-aware about their disease is important way of managing the disease itself. Giving proper information to patients or their care givers will be possible only if the health professionals also have right knowledge about the disease.

Early diagnosis of diabetes is important but more important would be the proper adherence to medications, good follow up for controlling blood sugar levels so that the patient doesn't land up into complications.

There has been a rise in the number of patients getting admitted for uncontrolled blood glucose and its complications. It's equally important for the nursing staff to have appropriate knowledge regarding diabetes from basic pathology, symptoms, complication to basic management. Our study showed that nursing staff did have good knowledge regarding insulin which they come across frequently. .But study also saw that there was lack of adequate knowledge regarding the basic pathology in type 1 and 2 diabetes which was the reason behind poor knowledge on basic management of these patients.

Our participants also lacked knowledge on the symptoms of hypoglycaemia which itself is one of the life threatening complication in diabetic patients and that insulin requirement increases in illness. In bed side practices it is important to teach the patients regarding proper site and method of insulin administration for the future. In this study it was surprising to see that significant number of nursing staff did not have adequate knowledge on correct sites of insulin administration.

Conclusion

Our study shows that there is significant gap between knowledge and practices. This gap needs to be taken care through well organised approach to make our nursing staff more acquainted with diabetes related issues. There is a critical role of diabetes education in improving the quality of diabetic care, self-management and to improve patient outcomes. It is important to improve the knowledge and clinical skills of the nursing staff so that we are able to achieve a healthier population in the future.

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Table 1: Percentage of participants on knowledge of cause of Diabetes.

| Diabetes | Characteristics | Percentage |
|-----------------|---|------------|
| Type 1 Diabetes | Obesity | 10.20% |
| | Mostly genetic | 29% |
| | Destruction of beta cells | 59.80% |
| | Don't know | 1% |
| Type 2 Diabetes | Mostly non genetic | 9% |
| | Reduced secretion and resistance of insulin | 77.50% |
| | Destruction of beta cells | 12.60% |
| | Don't know | 1% |

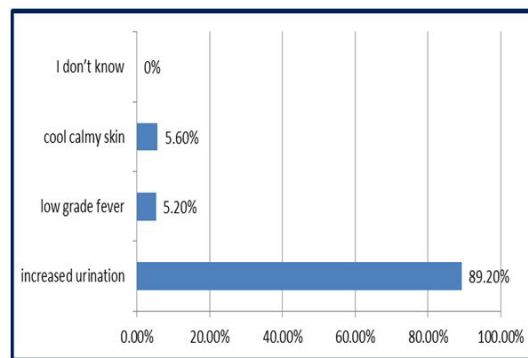


Figure 1: Percentage of knowledge on symptoms of hyperglycemia.

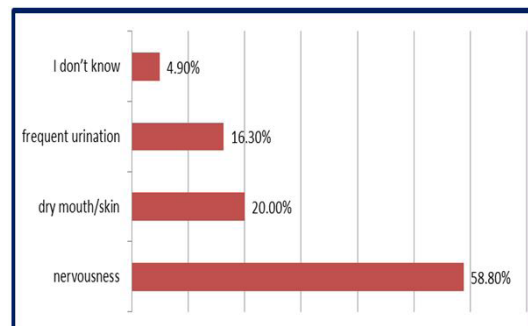


Figure 2: Percentage of knowledge on symptoms of hypo glycaemia.

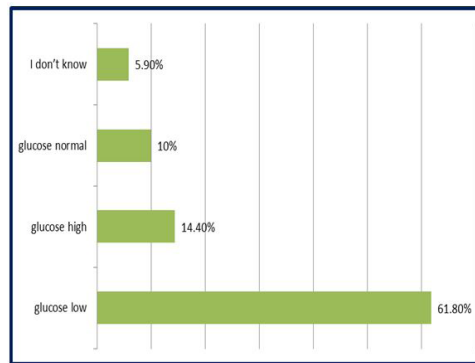


Figure 3: Percentage of knowledge on cause of unresponsiveness in diabetic patient.

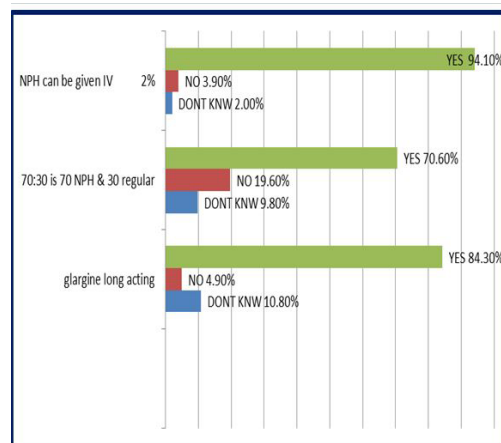


Figure 4: Percentage of knowledge on different forms of insulin.

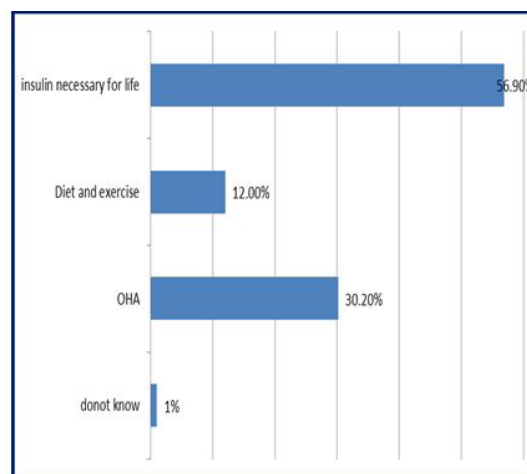


Figure 5: Percentage of knowledge on management of Type 1 diabetes.

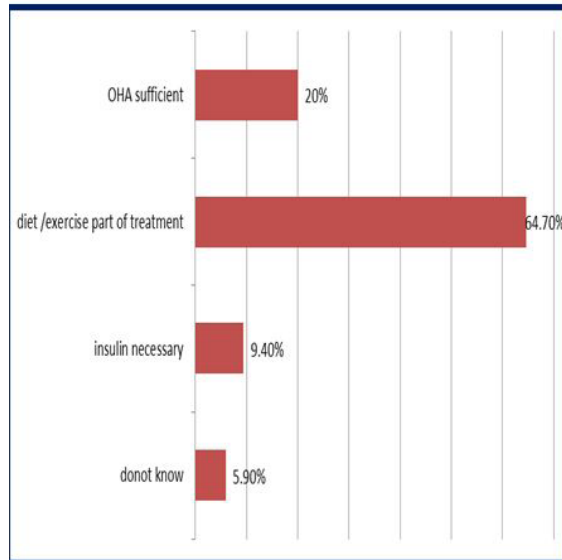


Figure 6: Percentage of knowledge on management of Type 2 Diabetes.

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