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Research Article

**AWARENESS AND ATTITUDE TOWARD USE AND SIDE EFFECTS
OF STEROIDS: A CROSS SECTIONAL STUDY OF HEALTH
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Abstract:

The term steroid means molecule having varying physiological properties. Initially steroids were isolated from adrenal gland and were thought to use in Addison disease. Now due to its potent anti-inflammatory and immune modulating properties steroids are used in many clinical problems. Testosterone exerts its effect on both reproductive and non-reproductive tissues. It is mostly used to increase muscle strength, increase muscle mass, decreased recovery time and promote healing. People may experience some side effects like euphoria, aggressive behavior and diminished fatigue during steroid use. Steroids can cause addiction and misuse of steroid is common in whole world. Steroids have serious adverse effects. This study aims to assess the awareness among health professionals towards the use and side effects of steroids and their attitude towards them. A cross-sectional study was conducted from January to February, 2018 in hospitals of Bahawalpur Pakistan (Victoria hospital Bahawalpur and civil hospital Bahawalpur) using structured questionnaire. Data were collected from 375 healthcare professionals from these two hospitals. Descriptive and inferential statistics were applied by using SPSS version 20. About 206 respondents (54.9%) were female and 169(45.1%) were male. Majority of respondents were doctors (55.7%), some were pharmacist (28.3%), 12.3% nurses and 3.7% were herbal and homeopathic doctors. About 98.9% respondents respond that they knew about the use of steroids. 80% professionals said that chronic steroid use increased the risk of infection. 72.2% respondents said that topical corticosteroids are used for atopic dermatitis in children. 71.4% respondents said that AAS can cause long term depression. Most of the respondents said that steroids can be prescribed to cancer patient and also used in asthma. Majority of respondents 89.3% said that steroid have immunosuppressive action. 68.4% professionals said that overdose of steroid may cause psychosis. 28% disagree that steroids are used as a 1st choice in asthma treatment. About 30.5% respondents disagree about steroid use are safe for children. Most of the health professionals have awareness about the use and side effects of steroid and shows positive attitude towards the steroid use. Regardless of awareness, steroids are most commonly prescribed to patients.

Key Words: *steroid abuse and misuse, health professionals, steroid use.***Corresponding author:****Rao Muhammad Adnan,**
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INTRODUCTION:

Steroids were identified in 1935. The term steroid means molecule having varying physiological properties. Initially steroids were isolated from adrenal gland and were thought to use in Addison disease. Now due to its potent anti-inflammatory and immune modulating properties steroids are used in many clinical problems (Ericson-Neilsen and Kaye, 2014).

Testosterone is male hormone produced by the testes (Bahrke et al., 1990). Testosterone was discovered in 1935, now various derivatives of testosterone have been prepared to improve the efficacy and metabolic half-life of parent molecule. Testosterone exerts its effects; anabolic and androgenic on both reproductive and non-reproductive tissues. Androgenic effects are responsible for growth and secondary characters in males whereas anabolic effects increase protein synthesis by stimulating nitrogen fixation. Many derivative of testosterone are used therapeutically due to its anabolic effects in various catabolic situations called anabolic androgenic steroids (AAS). The AAS have high anabolic activity and reduced androgenic activity (Maravelias et al., 2005). AAS are mostly prescribed in androgen deficiency syndrome, some types of anemia and hereditary angioedema (a rare skin condition). AAS are considered as controlled substances and classified as schedule III, because of their non-medical use in both men and women (Brower, 2002).

Preferred effects of steroids as supposed by sports participants are increased muscle mass, increase muscle strength, decreased recovery time, increased aggression and promote healing of injuries. Sports persons often experience a state of euphoria, increased aggressive behavior and diminished fatigue during steroid use. A placebo effect has also been suggested. They convert a negative nitrogen balance to a positive one by improving the use of ingested protein and increasing nitrogen retention. They also have the ability to induce protein synthesis in skeletal muscle cells. Anabolic steroids are believed to exert their effects by binding to androgen receptors at the cellular level, which translocate to binding sites on chromatin, promoting gene transcription, stimulating production of mRNA, and ultimately increasing protein synthesis. The various clinical effects are determined by the type and concentrations of androgen receptors and enzymes controlling steroid metabolism in a given organ. The structure of androgen receptors appears to be identical in muscle and other organs. Steroids compete for glucocorticosteroid receptors, causing an anti-catabolic effect by blocking the glucocorticosteroid effects of depressed protein synthesis during stressful

training (Maravelias et al., 2005). Glucocorticoids through interaction with the glucocorticoid receptor up-regulate the expression of anti-inflammatory proteins and down regulate the expression of pro-inflammatory proteins. Due to their strong anti-inflammatory and immunosuppressive effects, systemic steroids are used in a variety of conditions (Butt et al., 2016).

METHODOLOGY:**1.1 Objectives of study****1.1.1 General objective**

This study aims to assess the awareness regarding the use and side effects of steroids among health professionals of Bahawalpur, Pakistan.

1.1.2 Specific Objective

This study will describe awareness and attitude of health professionals towards use and side effects of steroids.

1.2 Study setting

Study is performed in Bahawal Victoria Hospital Bahawalpur and Civil Hospital Bahawalpur, Bahawalpur.

1.2.1 Study design

A cross-sectional study design was adopted that allowed the researchers to determine the awareness and attitude of health professional toward use and side effects of steroids. The purpose for adopting this study design was that it comparatively requires less time, less expense & provides multiple outcomes.

1.2.2 Study population

The study population was 385 Health Professionals living in Bahawalpur City, Punjab, Pakistan. They were interviewed to assess their knowledge and attitude. Total number of filled questionnaire were 375 while the total number of distributed questionnaires were 385.

1.2.3 Geographical settings

This study was conducted in the Bahawalpur city of southern Punjab, Pakistan. The Bahawalpur city is located in the desert area of Punjab province of Pakistan at an altitude, longitude & latitude of 461m, 7106836 & 29.3956 respectively. Bahawalpur City accounts for almost 10% of the total population of the Punjab province, Pakistan.

1.2.4 Sample size

The Sample size was calculated by using Rao soft (The online sample size calculator) with a confidence interval 95% and margin of error (M.E) 5%. The calculated sample size was 385.

1.3 Sampling method and procedure**1.3.1 Sampling method**

Non-probability convenient sampling method was adopted for sample size determination.

1.3.2 Sampling procedure

Health professionals were selected on the basis of inclusion and exclusion criteria which is specified in the table below.

- **Inclusion criteria**
 1. Doctors, Nurses, Pharmacists, Herbal and homeopathic doctors were included.
 2. Health professionals who were willing to participate.
 3. House job doctors were also included.
- **Exclusion criteria**
 1. Medical student.
 2. Health professionals unwilling to participate.

1.4 Data collection

1.4.1 Data collection instrument

A structured questionnaire was used as data collection tool. The study tool was developed from extensive literature review of previous studies. Study instrument was consisted of total 3 section containing total 55 questions. Section A consist of demographic information of participants such as their gender and profession. Section B contained 40 questions to assess health professionals' knowledge about use and side effects of Steroids. Section C contained 12 questions to assess health professionals' attitude toward use and side effects of Steroids.

1.4.2 Reliability and Validity of data collection instrument

After a comprehensive literature review, a structured data collection tool was designed which was tested for its validity and reliability through a pilot study of 10% of total service (N=55). Phrase and content validation of data collection instrument was done by panel of expert. Internal consistency for reliability test data collection instrument was measured by applying chrome back α -test and α - value was 0. 744 which indicate medium to strong internal consistency of the instrument.

1.4.3 Data collection procedure

As this study was conducted to evaluate the knowledge and attitude of health professionals (n=375) regarding use and side effects of Steroids. Data was collected from January to February 2018. The nature and reason behind our research was explained and all information and response of Participant were kept confidential. Then a questionnaire was requested to fill.

1.5 Data analysis

For data analysis, all the collected data was entered into the SPSS (Statistical Package for Social Science) Software version 20. Descriptive statistics and inferential statistics (Chi-square, Mann-Whitney and Kruskal Wallis) was used to check the association between various variables.

All the data was entered and analyzed according to the Scoring of the questionnaire.

2.RESULTS:

This section provides a detailed description of the result obtained from analysis of study. Variables are described as simple percentages and frequencies depending on their nature. It provides the summary of the demographic data, awareness about use and side effects of steroids and attitude toward use and side effect of steroids among health professional. A total of 375 respondents were included in the study on convenient basis.

The demographic details of respondents, table 4.1 show the majority of the respondents 206(54.9%) were female while 169(45.1%) were male. However, demographic details about profession of the respondents show that majority of the respondents 209(55.7%) were doctors, 106(28.3%) were pharmacists, 46(12.3%) were nurses and remaining 14(3.7%) were herbal and homeopathic doctors.

Table 0.1: Demographic Information of Respondents

Categories	Sub categories	N (%)
Gender	Male	169 (45.1%)
	Female	206 (54.9%)
	Total	375 (100%)
Profession	MBBS	209 (55.7%)
	Pharmacist	106 (28.3%)
	Nurse	46 (12.3%)
	BHMS/BEMS	14 (3.7%)
	Total	375(100%)

Note: All the calculations are based on observed values missing values were excluded from calculations.

Table 4.2 shows the awareness and side effects of steroids majority of the respondents. 199(53.5%) responds "No" to that steroids can be prescribed to patients having complaint of pain. Most of the

320(86%) respondents respond "Yes" that chronic steroid use increase risk of infection with intracellular pathogens. Majority of the respondents 310(83.3%) responds "Yes" that mucocutaneous infection are

common during treatment with corticosteroids. Most of the 319(85.3%) respondents say “Yes” that prolonged treatment with corticosteroids can cause edema. 334(89.1%) respondents responds yes that steroids are used in asthma and steroids have immunosuppressive action. Majority of the 283(76.1%) respondents says “Yes” that corticosteroids are usually used in combination with antibiotics in pediatrics. Most of the respondents 300(81.5%) agree that anabolic-androgenic steroids abuse is associated with mood syndrome. 273(73.6%) respondents say “Yes” that long term use of supra-physiologic doses of anabolic-androgenic steroids

(AAS) cause irreversible cardio vascular toxicity. 195(52.3%) respondents say “Yes” that single dose of corticosteroid can cause neutrophilic leukocytosis. Most of the respondents 293(78.3%) respond “Yes” that long term use of anabolic-androgenic steroids suppresses hypothalamic pituitary testicular axis. 267(72.6%) responds “Yes” that combination of steroids with azathioprine results in reactivation of cytomegalovirus (CMV) in renal transplant patient. Most of the respondents 225(60.8%) respond “No” that steroids are prescribed with anticoagulant. 210(56.5) respondents say “No” that steroids prescribed for treatment of AIDs

Table 0.2: Awareness about used and side effects of steroids

Statement	Yes	No	Frequency N (%)
Do you know about the usage of steroids?	371 (98.9%)	2 (0.5%)	373 (100%)
Steroids are used in emergency condition.	356 (94.9%)	19 (5.1%)	375 (100%)
Steroids can be prescribe to a patient having complaint of pain.	173 (46.5%)	199 (53.5%)	372 (100%)
Steroids injections can be prescribed frequently.	90 (24.1%)	284 (75.9%)	374 (100%)
Use of steroids can cause allergic reaction.	208 (55.9%)	164 (44.1%)	372 (100%)
Chronic steroid use increases risk of infection with intracellular pathogens.	320 (86%)	52 (14%)	372 (100%)
Mucocutaneous infections are common during treatment with corticosteroids.	310 (83.3%)	62 (16.7%)	372 (100%)
Corticosteroids delays wound healing.	258 (68.8%)	117 (31.2%)	375 (100%)
Prolonged treatment with corticosteroids can cause edema.	319 (85.3%)	55 (14.7%)	374 (100%)
Topical corticosteroids are used for atopic dermatitis in children.	268 (72.2%)	103 (27.8%)	371 (100%)
Topical preparation of steroids can cause hyperglycemia.	155 (41.7%)	217 (58.3%)	372 (100%)
Anabolic-Androgenic steroids (AAS) have a role in development of long term depression.	264 (71.4%)	106 (28.6%)	372 (100%)
Low potency corticosteroids are used for acute inflammatory skin lesions.	288 (77.2%)	85 (22.8%)	373 (100%)
In pediatrics Corticosteroids are usually used in combination with antibiotics.	283 (76.1%)	89 (23.9%)	372 (100%)
Steroids can be prescribed for cancer patients.	239 (64.2%)	133 (35.8%)	372 (100%)
Steroids are used in asthma.	334 (89.1%)	41 (10.9%)	375 (100%)
Oral steroids are prescribed for liver dysfunction.	131 (35.1%)	242 (64.9%)	373 (100%)
Steroids have Immunosuppressive action.	334 (89.3%)	40 (10.7%)	374 (100%)

Steroids can be used for Hypotension.	190 (50.9%)	183 (49.1%)	373 (100%)
Steroids can be prescribed in diabetes.	140 (37.5%)	233 (62.5%)	373 (100%)
Risk of prostate cancer increases in men because of over use steroids.	234 (63.6%)	134 (36.4%)	368 (100%)
Psychosis is a symptom of steroids' over dose.	253 (68.4%)	117 (31.6%)	370 (100%)
Use of steroids can cause risk of dependence.	311 (83.2%)	63 (16.8%)	374 (100%)

Table 4.2 continued....

Statement	Yes	No	Frequency N (%)
Long term use of supra-physiologic doses of Anabolic-Androgenic steroids (AAS) cause irreversible cardiovascular toxicity.	273 (73.6%)	98 (26.4%)	371 (100%)
Anabolic-Androgenic steroids abuse is associated with mood syndrome	300 (81.5%)	68 (18.5%)	368 (100%)
Steroids affects coagulation and platelet aggregation	281 (75.7%)	90 (24.3%)	371 (100%)
Single dose of corticosteroids can cause neutrophilic leukocytosis.	195 (52.3%)	178 (47.7%)	373 (100%)
High dose steroids inhibit phagocytosis and bactericidal activity	281 (75.5%)	91 (24.5%)	372 (100%)
Corticosteroids can cause weakening of collagen and fibrous tissue.	314 (84%)	60 (16%)	374 (100%)
Long term use of Anabolic-Androgenic steroids suppresses hypothalamic pituitary testicular axis.	293 (78.3%)	81 (21.7%)	374 (100%)
Steroids can cause monocytopenia.	227 (61.4%)	143 (38.6%)	370 (100%)
Combination of steroids with azathioprine results in reactivation of cytomegalovirus (CMV) in renal transplant patients.	267 (72.6%)	101 (27.4%)	368 (100%)
Application of topical corticosteroids to the eyelids results in glaucoma.	227 (61.9%)	139 (37.9%)	367 (100%)
Topical corticosteroids can cause aggravation of cutaneous candidiasis.	277 (74.7%)	94 (25.3%)	371 (100%)
Psoriasis is a side effect of topical corticosteroids.	199 (53.8%)	171 (46.2%)	370 (100%)
Topical steroids can cause skin atrophy.	296 (79.6%)	76 (20.4%)	372 (100%)
Steroids can be prescribed in patients who use alcohol.	224 (60.2%)	148 (39.8%)	372 (100%)
Anabolic steroids can cause tendon injuries.	245 (66.4%)	124 (33.6%)	369 (100%)
Steroids are prescribed along with anticoagulant.	145 (39.2%)	225 (60.8%)	370 (100%)
Steroids prescribed for treatment of AIDS.	162 (43.5%)	210 (56.5%)	372 (100%)

Note: All the calculations are based on observed values missing values were excluded from calculations.

Table 4.3 shows the attitude of health professionals toward the use and side effects of steroids. Majority of the 77% respondents strongly agree that over prescribing of steroids is hazardous. Almost 55.2 % (206) respondents strongly agree that the long term use of steroids have effect on normal physiological function. 19.5% respondents strongly agree that steroids are 1st choice of drug in asthma. 8.1% participants strongly agree with steroid are 1st choice in arthritis. Almost 5.3% respondents strongly agree that steroids are safe for children. 13.7% respondents strongly agree that corticosteroids have little abuse potential. 28.3% respondents agree that to minimize the side effects of

steroids, any supplement/drug aid is required. Majority of the 50.7% strongly agree that steroid therapy must be maintained. Almost 55% respondents strongly agree that proper guidance and advice to be given to the patients while prescribing steroids. 23% strongly agree whereas 46.8% agree that limiting steroid administration for less than 21 days decreases complication. 21.2% respondents strongly agree that steroids are used for hormone replacement therapy in clinical practice. 19.3% respondents strongly agree that topical corticosteroid application is standard therapy for atopic dermatitis.

Table 0.3: Attitude toward use and side effects of steroids

Sr. no.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
1.	Over prescribing of steroids is hazardous.	288 (77%)	50 (13.4%)	21 (5.6%)	2 (0.5%)	13 (3.5%)	374 (100%)
2.	Long term use of steroids have effect on normal physiological functions.	206 (55.2%)	151 (40.5%)	8 (2.1%)	3 (0.8%)	5 (1.3%)	373 (100%)
3.	Steroids are the 1 st choice in asthma.	73 (19.5%)	92 (24.5%)	58 (15.5%)	105 (28%)	47 (12.5%)	375 (100%)
4.	Steroids are the 1 st choice in arthritis.	30 (8.1%)	101 (27.2%)	109 (29.3%)	93 (25%)	39 (10.5%)	372 (100%)
5.	Steroids are safe for children.	20 (5.3%)	67 (17.9%)	92 (24.6%)	114 (30.5%)	81 (21.7%)	374 (100%)
6.	Corticosteroids have little abuse potential.	51 (13.7%)	112 (30.1%)	83 (22.3%)	67 (18%)	59 (15.9%)	372 (100%)
7.	To minimize the side effects of steroids, any supplement/drug aid is required.	61 (16.4%)	105 (28.3%)	122 (32.9%)	74 (19.9%)	9 (2.4%)	371 (100%)
8.	Steroid cards for patients on steroid therapy must be maintained.	189 (50.7%)	132 (35.4%)	30 (8%)	19 (5.1%)	3 (0.8%)	373 (100%)
9.	Proper guidance and advice to be given to the patients while prescribing steroids.	208 (55.6%)	127 (34%)	35 (9.4%)	3 (0.8%)	1 (0.3%)	374 (100%)
10.	Limiting steroid administration for less than 21 days decreases complications.	86 (23%)	175 (46.8%)	80 (21.4%)	33 (8.8%)	0 (0%)	374 (100%)

Table 4.3 continued.....

Sr. no.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
11.	Steroids are used for hormone replacement therapy in clinical practice.	79 (21.2%)	127 (34.1%)	103 (27.7%)	62 (16.7%)	1 (0.3%)	372 (100%)
12.	Topical corticosteroid application is standard therapy for atopic dermatitis.	72 (19.3%)	164 (44%)	104 (27.9%)	30 (8%)	3 (0.8%)	373 (100%)

Note: All the calculations are based on observed values missing values were excluded from calculations.

Table 4.4 shows the association of gender with awareness of use and side effect of steroids. Almost all the health professionals 107(100%) male and 207(99%) female know about the usage of steroids. Almost 92(55.1%) male and 81(39.5) female agree that steroids can be prescribed to patient having complaint of pain there is a significant difference between the answers of male and female respondents. Majority of the male 151(89.9%) and female 169(82.8%) respond "Yes" that chronic steroid use increase risk of infection with intracellular pathogens. 87.3% female and 78.6% male respondent agree that Mucocutaneous infections are common during treatment with corticosteroids. 85.1% male and 85.4% female respondents agreed that prolonged treatment with corticosteroids can cause edema. Almost 62.9 % (129) females respond no that topical preparation of steroids can cause hyperglycemia and there is significant difference between the answer of male and female. Almost 126(75.4%) males agreed that anabolic-androgen have role in development of long term depression. 115(68%) male and 62% female disagreed that oral steroids are prescribed for liver dysfunction. Majority of the male and female respondents 92.3% and 86.9% agreed that steroids have immunosuppressive action. 66.3% male respondents agreed that use of steroids increase risk for prostate cancer. 78% female respondents agreed that steroids affect coagulation and platelet aggregation. 114(68.3%) male and 113(55.7%) female agreed that steroid can cause monocytopenia and there is a significant difference between their answers. Majority of the 127(77%) male respondents agreed that combination of steroids with azathioprine results reactivation of (CMV) in renal transplant patient. Majority of male respondents agreed that 84.3% respond "Yes" that aggravation of cutaneous candidiasis occur with topical corticosteroids. 58.1% male and 63% female disagreed that steroids are prescribed along with anticoagulants. 53% male and 59% female also disagreed that steroids can be prescribed in AIDs for treatment.

DISCUSSION:

This study investigates the awareness and attitude of the health professionals towards the use and side effects of steroids. To date most research has focused on the steroid properties short term health risks of steroids. Doctors, pharmacists, nurses and herbal and homoeopathic doctors are selected in this study who are directly involved in advising the people and patient to use steroids. Majority of health professionals including male and female agree that steroids can be prescribed to patients having complaint of pain there is a significant difference between the answers of male and female respondents and among them Majority of pharmacists agreed to the statement. Majority of the doctors agreed that steroids can be used for pain management while Majority of the pharmacists disagreed with the statement. In a study published in American society of interventional pain physicians in 2002 in which steroid administration was effective for management of low back pain and sciatica, and other neural blockade including facet joint injection (Manchikanti, 2002). In our study almost half of the health professionals included in study know about the usage of steroids in pain management.

Majority of the male and female respond "Yes" that chronic steroid use increase risk of infection with intracellular pathogens. Likewise more than 80% of all the professionals agreed that chronic utilization of steroids is associated with increased risk of infection with intracellular pathogens. Infections caused by *Listeria monocytogenes*, *Salmonella* species, *Brucella*, and *Legionella* were noted to be occur more frequently in patients receiving chronic steroids in a study in 2001. Chronic steroid use increase risk of

infection with intracellular pathogens. (Klein et al., 2001). Majority of the respondents responded 'yes' to the statement that topical corticosteroids are used for atopic dermatitis in children. Among health professionals, more than 70% answered 'yes' to the statement. In a study in 2014, atopic dermatitis is defined as a chronic, pruritic inflammatory skin disease that occurs most frequently in children, but also affects many adults. It follows a relapsing course. Atopic dermatitis is often associated with elevated serum immunoglobulin (IgE) levels and a personal or family history of type I allergies, allergic rhinitis, and asthma. Atopic eczema is synonymous with atopic dermatitis. Topical corticosteroids effects on variety of immune cells including t-lymphocytes, monocytes, macrophages and dendritic cell and these are the mainstay for atopic dermatitis either for children and adults (Eichenfield et al., 2014).

A large number of respondents both male and female disagreed that steroids can cause hyperglycemia. Among health professionals, majority of the professionals disagreed with this statement. The effect of glucocorticoids on glucose metabolism is likely the result of various pathways including β cell dysfunction or by insulin resistance in other tissues. As the therapeutic benefits of glucocorticoids continue to expand but likewise the steroid induced diabetes also continue to rise. Exogenous corticosteroid use is associated with hyperglycemia, and high-dose therapy increases insulin resistance in patients with pre-existing and new-onset diabetes (Hwang and Weiss, 2014, Liu et al., 2013). Glucocorticoids use can lead to a wide range of psychiatric and cognitive disturbances, including memory impairment, agitation, anxiety, fear, hypomania, insomnia, irritability, lethargy, mood

lability, and even psychosis (Liu et al., 2013). In our study majority of the male and female respondents also agreed to the statement that psychosis is the side effect of steroid high dose among the health professionals, there is very significant difference in results and more than 70% professionals agreed to this statement except pharmacist. However, 52% pharmacist also agreed that psychosis is a side effect of steroids. In a study, infection related to steroids were studied and monocytopenia, decreased chemotaxis and decreased phagocytosis and decreased bactericidal activity on high dose is reported (Klein et al., 2001). Majority of the respondents including male and female also agreed that monocytopenia can be caused by steroid. But among different health professionals there is insignificant difference in results. A large number of respondents either male or female agreed that steroids can aggravate the cutaneous candidiasis but among health professionals there is not significant difference in results. In a study, it was stated that cutaneous candidiasis is aggravated by the use of topical corticosteroids (Hengge et al., 2006).

A majority of the respondents among male and female strongly agreed that steroids are hazardous. And different health professionals also strongly agreed with this statement. There is significant difference between the responses of respondents who strongly agreed that long term use of steroids effects the normal physiological functions than others. Different changes in normal physiological functions are observed in different studies like testicular atrophy, left ventricle hypertrophy, adrenal depression, peptic ulcer, candidiasis, pancreatitis, depressed immune system and other psychiatric effects (Van Amsterdam et al., 2010, Angell et al., 2012, Achar et al., 2010, Stanbury and Graham, 1998). Majority of the health professionals agreed that steroids are the 1st choice in asthma treatment. In a study it was noted that inhaled budesonide provided benefits in asthma patients when added with oral corticosteroids (Rowe et al., 1999). Inhaled corticosteroids are the recommended as a preferred treatment in a study (Health, 2002). Mostly doctors, nurses and BEMS/BHMS graduates remain neutral for 1st choice of steroids in arthritis but most of the pharmacist disagreed with this statement. Most of the health professionals strongly agreed that steroids are harmful for children. Among health professionals, more than 50% doctors and pharmacists agreed that steroids are harmful for children but majority of the nurses and BHMS/BEMS graduates remained neutral regarding this statement. In a study, osteonecrosis is reported in children with the administration of glucocorticosteroid. Oral glucocorticoid therapy has

been associated with a delay in growth and puberty in children with asthma and other childhood diseases such as nephrotic syndrome (Liu et al., 2013). So wide range of professionals know that steroids are harmful for children. Significant number of respondents agreed that corticosteroids have abuse potential. In literature it is mentioned that topical corticosteroids have abuse potential, fungal infection was found to be the leading cause of abuse followed by the facial acne and lightening of skin color (Mahar et al., 2016). Most of the respondents agreed that steroid cards must be maintained during the steroid therapy and proper guidance must be provided to the patients while prescribing. Most of the health professionals agreed that steroids are the standard therapy for atopic dermatitis. In literature, topical steroids are recommended as a standard therapy for atopic dermatitis (Rathi and D'souza, 2018).

CONCLUSIONS:

Our study was mainly focused on the assessment of awareness and attitude towards the use and side effects of the steroids among the health care professional. Steroid means molecule having varying physiological properties. As we know preferred effects of steroids as supposed by sports participants are increased muscle mass, increase muscle strength, decreased recovery time, increased aggression and promote healing of injuries. Sports persons often experience a state of euphoria, increased aggressive behavior and diminished fatigue during steroid use. Corticosteroids are widely used and have an essential part in controlling many inflammatory and immunological situations but their use leads to many other impediments like osteoporosis, adrenal suppression, hyperglycemia, dyslipidemia, cardiovascular disease, Cushing's syndrome, psychiatric disturbances and immunosuppression are the more severe side effects noted with systemic corticosteroid. Misuse of steroid was significantly higher among those with high level of education. Most of the people are unaware of withdrawal symptoms after they quit steroids. From our study, it is concluded when we asked from the health care professionals on awareness about used and side effects of steroids then mostly are well aware about the side effects of the steroids. They all show the positive answers towards steroids use and side effects. But they use the steroids only in critical painful situation and severe inflammation. And when we asked some questions regarding to assess the attitude towards the use of and side effects of the steroids then most of them show positive attitude towards the use and side effects of the steroids. In our study, it is concluded that female health care professionals are well aware about the use and side

effects of steroids. Doctors have more information about the use of steroids and female health care professionals also show positive attitude towards the use of the steroids. Inspite of all the awareness and showing positive attitude towards the use of steroids they are still most commonly prescribed in the patient's medication therapy suffering from the chronic diseases.

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