



St. Peter's

Institute of Pharmaceutical Sciences

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NEWSLETTER OF CLINICAL PHARMACY

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Vision

St.Peter's is committed to generate, disseminate and preserve knowledge and work with pioneers of this knowledge, and to be the most sought after institute globally in the field of pharmaceutical sciences by creating world class pharmacy professionals and researchers.

Mission

To achieve academic excellence with integrity and creating opportunities for leadership and responsibilities through groundbreaking performance in the field of Pharmaceutical Sciences by educating students with pharmaceutical needs of the society and to advance the knowledge through research and to serve the profession and community.



FDA APPROVED DRUGS OCTOBER 2021- MARCH 2022

SL.NO	DRUG NAME	BRAND NAME	INDICATION	ADVERESE REACTION
1.	RISPERIDONE	DASH PHARMS	Schizophrenia and irritability associated with autistic disorder	insomnia, fatigue, parkinsonism, anxiety
2.	LITHIUM CARBONATE	HETERO LABS LTD III	manic episodes of bipolar disorder	hyperreflexia, vertigo, coma, lethargy
3.	ONDANSETRON HYDROCHLORIDE	AMNEAL PHARMS	Nausea and vomiting	headache, constipation, paresthesia, pruritus
4.	RAMIPRIL	AUROBINDO PHARMA LTD	Hypertension	hypotension, fatigue, cough, agitation
5.	LEVETIRACETAM	PHARMADAX INC	Seizures	anxiety, fatigue, amnesia, paranoia
6.	GABAPENTIN	ASCENT PHARMS INC	seizures	ataxia, fatigue, amnesia, lethargy, vertigo
7.	OSELTAMIVIR PHOSPHATE	EPIC PHARMA LLC	Prophylaxis of influenza virus A and B	headache, vomiting, agitation, dermatitis
8.	DUPILUMAB	REGENERON PHARMACEUTICALS	Dermatitis and Asthma	insomnia, gastritis, tinnitus, erythema
9.	SOMAPACITAN-BECO	NOVO NORDISK INC	for replacement of growth hormone in deficient patient	sleep disorder, hypertension, dyspepsia
10.	ESTRADIOL	SANDOZ	Vulvar and vaginal atrophy associated with menopause	anxiety, dizziness, migraine, edema

A Case-Control Analysis of the Association between Stress and Severe Obesity

Introduction;

Obesity is influenced by genetic, biological, and psychosocial factors, with stress playing a complex role. Chronic stress can contribute to weight gain and metabolic issues, partly through hormonal imbalances involving ghrelin, leptin, and neuropeptide Y. Despite recent reductions in obesity rates in Finland, understanding the link between stress and obesity remains crucial.

Accumulation of visceral fat is linked to chronic stress and can disrupt homeostasis, leading to obesity. In some cases, this obesity may help maintain energy balance. Stress affects diseases differently in obese versus normal-weight individuals, and new neural mechanisms may offer insights into treating stress-related issues.

Materials and Methods:

Study and Control Groups

The study focused on 112 individuals from southern Finland receiving permanent disability pensions due to obesity. Initially, 152 individuals met the criteria, but 19 were excluded for having temporary pensions, and others were excluded if they died or stopped receiving pensions. Control subjects, selected from the same region, were matched to the study group by residence, sex, age, pension date, and occupation. Random sampling was used to select three female and five male controls per case, with at least 2-3 controls per case subject included in interviews. In total, 510 participants were involved, comprising 112 case subjects and 398 controls. Invitations were sent discreetly, ensuring confidentiality, and non-participation reasons were documented. BMI was calculated as weight (kg) divided by height squared (m²), with WHO-defined categories: overweight (BMI 25–29), obese (BMI 30–34), severely obese (BMI 35–40), and morbidly obese (BMI >40). Finland's Sickness Insurance Act and National Pensions Act provide disability insurance for all residents, with the National Pensions Scheme offering basic pension coverage. Disability evaluations consider age, professional skills, and individual working capacity. The study was ethically approved by Helsinki's Hesperia/Aurora and Lapinlahti Hospitals, with informed consent obtained from all participants, adhering to the Declaration of Helsinki.

Methods

The study utilized a psychiatric interview form and disease classifications from ICD 9–10 and DSM III, focusing on a multi-axial system to assess participants. The Global Assessment Scale (GAS) was used to evaluate social, occupational, and psychological functioning. A questionnaire, originally developed by Saari and modified by Keltikangas-Järvinen, assessed coping mechanisms with 10 behavioral alternatives ranked by respondents. The questionnaire differentiated between active problem-solving and giving up on solving problems.

Statistical Methods:

The study employed various statistical methods, including χ^2 tests, t-tests, conditional logistic models, and Pearson correlations. Data distributions were graphically presented, and paired t-tests were used to analyze differences between the matched study and control groups. Significant variables underwent further analysis using a linear logistic model to calculate risk ratios and confidence limits. Statistical analyses were conducted using SPSS software, while conditional logistic analyses were performed with the GLIM program, provided the data were organized in an individual-by-individual format.

This method is easy to use and flexible, making it suitable for analyzing individualised personalized data. It employs a log-linear model termed "conditional logistic regression," with a Poisson distribution and logarithmic link function, termed "conditional logistic regression" in case-control studies. Missing controls were replaced with the best match, though some data were excluded due to unavailability. Statistical significance was defined as highly significant at $p < 0.001$, significant at $p < 0.01$, and nearly significant at $p < 0.05$.

Refusal of Participants

The average age of participants was 59 for men and 61 for women. Among them, 31 had primary education, and 34 had no vocational training. Those who refused to participate had similar demographics to those who did.

Results:

Basic Characteristics of the Study Participants

Table 1 outlines participants' basic characteristics. The mean weight of the case subjects ($n = 75$) was 106.2 kg, compared to 72.3 kg for the controls. Among the case subjects, 91% had a secondary somatic diagnosis, with musculoskeletal and connective tissue diseases being the most common (38%). For control subjects, cardiovascular diseases were the primary diagnosis (20%), and none had obesity as their primary illness.

Results of the Research:

During psychiatric interviews, participants identified marriage as the most significant trigger for obesity, with statistical significance ($p = 0.0027$). Family problems, pregnancy, childbirth, and abortion were also linked to weight gain, though family issues were not statistically significant ($p = 0.053$). The study group had a higher incidence of disability pensions due to obesity than the control group, nearly reaching statistical significance ($p = 0.022$). Stress levels were higher in the study group, with a mean of 4.44 compared to 4.12 in controls, although differences in stress (DSM III axis IV) were not statistically significant. However, the study group showed significantly better adaptive functioning (DSM III axis V) and slightly lower overall functioning according to the GAS, with differences in GAS scores nearing statistical significance ($p = 0.022$).

The study examined the rankings of active coping mechanisms between case and control groups. Surprisingly, case subjects scored higher on alternatives 4 ("I pour out my worries to friends") and 10 ("I start over with more energy"), with means of 5.6 and 5.3, compared to 4.8 and 4.4 for controls. No significant differences were found for alternatives 7 ("I ask for advice") and 8 ("I try to figure out why this happened"). The overall mean rankings for active coping were 22.8 for case subjects and 21.5 for controls ($p = 0.306$). However, the mean rankings for giving up on problem-solving were significantly lower for case subjects (6.6) than controls (8.7), with a p -value of 0.037. Both groups rarely chose alternative 5 ("I go out to have a good time"), and only alternative 6 ("I try to think about other things") was consistently applicable in both groups.

Thus the study found that case subjects were more likely to engage in active coping by sharing their worries and restarting with energy, while control subjects were more prone to give up on problem-solving. Overall, the differences in coping strategies between the two groups were minor.

The study measured the relationship between stress tolerance and obesity using Pearson correlation coefficients. For females, correlations with BMI were weak and only stress statement 2 was statistically significant ($r = -0.149$, $p = 0.030$). For males, stress statement 6 showed a nearly significant negative correlation ($r = -0.1806$, $p = 0.048$). Other stress statements showed no clear relationship with obesity.

Conclusion:

This study, the first on disability pensions due to obesity, highlights the significant role of chronic stress in obesity development. Stress triggers like marriage and pregnancy were notable, with case subjects using more active coping strategies compared to controls. Despite these differences, the overall stress-obesity relationship remains complex. The study's strength lies in its rigorous methodology and representative sample, but it lacks exploration of age, physical activity, and sociocultural factors. These findings emphasize the need for targeted stress management in obesity treatment and further research to understand this relationship better.

PRODUCT MONOGRAPH OF NIFEDIPINE

DRUG NAME : NIFEDIPINE

DOSE : Capsules, 5 mg and 10 mg, Oral USP

INDICATIONS NIFEDIPINE (nifedipine capsules) is indicated for:

- Management of angina resulting from coronary artery spasm.
- Management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

MOLECULAR WEIGHT: 318.34 g/mol

MECHANISM OF ACTION: Nifedipine selectively inhibits L-type calcium channels in vascular smooth muscle and cardiac muscle cells. By blocking these channels, nifedipine reduces intracellular calcium levels, leading to Vasodilation and decreased Myocardial Oxygen Demand.

PHARMACOKINETICS

Absorption: Nifedipine is well-absorbed from the gastrointestinal tract. However, it undergoes significant first-pass metabolism.

Distribution: It is highly bound to plasma proteins (90-95%).

Metabolism: Nifedipine is metabolized primarily in the liver via the cytochrome P450 system (mainly CYP3A4).

Excretion: The drug and its metabolites are excreted mainly via urine.

MAJOR INDICATIONS: Hypertension, Angina Pectoris, Raynaud's phenomenon, and certain types of premature labor due to its smooth muscle relaxant properties.

DOSAGE AND ADMINISTRATION

Hypertension: the initial dose is 30 mg to 60 mg once daily, can be adjusted based on the patient's response and tolerance.

Angina Pectoris: The usual starting dose is 10 mg to 30 mg three times daily, can be adjusted as needed.

SIDE EFFECTS

Cardiovascular: Hypotension, tachycardia, palpitations, and flushing.

Gastrointestinal: Nausea, abdominal pain, and constipation.

Neurological: Dizziness, headache, and peripheral edema.

CONTRAINDICATIONS

Hypersensitivity: To nifedipine or any of its components.

Severe Aortic Stenosis: Due to the risk of exacerbating the condition.

Pregnancy Category C: Use during pregnancy should be based on a benefit-risk assessment.

DRUG INTERACTIONS

CYP3A4 Inhibitors: Such as ketoconazole and erythromycin can increase nifedipine levels, leading to potential toxicity.

CYP3A4 Inducers: Such as rifampin may decrease nifedipine effectiveness.

Other Antihypertensives: Concomitant use may result in additive hypotensive effects.

DEPARTMENTAL ACTIVITIES:

Our Institution in association with 'International Society for Pharmacoeconomics and Outcome Research' (ISPOR) and 'Indian Pharmaceutical Association' (IPA) organised 'VIGICLIN 24: An Innovative Path Switch and Career Guidance' programme on in our college premises.

Speaker of the session: Dr.C. Prabhakar Reddy garu
Additional Professor,
DEPARTMENT OF CLINICAL PHARMACOLOGY AND THERAPEUTICS,
Nizam Institute of Medical Sciences, Hyderabad.



Empowering through Art: St. Peter's Institute of Pharmaceutical Sciences celebrated World Cancer Day with a thought-provoking painting competition on cancer awareness. Spreading hope and raising awareness through the language of colors. Let every stroke tell a story, each hue convey strength, and every masterpiece be a beacon of awareness. Together, we paint a brighter future in the fight against cancer. Numerous students stepped up and demonstrated their artistic skills in a painting competition.



FACULTY ACHIEVEMENTS

Dr.Praveen Devanandan Associate professor and Head of the Department of Pharmacy practice has bagged first /Best oral presentation Award at 25th Annual National Convention APTICON 2022



