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AYURVEDIC SINGLE DRUGS AND FORMULATIONS USED TO TREAT OBESITY AND LIPIDS DISORDERS

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ABSTRACT: Obesity is a globally concerning healthcare problem, leading to various chronic disorders. All over the world, over 4 million deaths are attributed to being overweight or obese. The study emphasises the rising prevalence of lifestyle disorders, particularly obesity. It advocates for holistic approaches that incorporate dietary modification, detoxification, and psychological support alongside traditional Ayurvedic practices. The Ayurvedic system is built on a rich pharmacopoeia that includes medicinal plants. Each plant has specific properties that contribute to the overall effectiveness of the formulation. The review highlights those medicinal plants used in Ayurveda for treating obesity and lipid disorders, detailing specific formulations such as Navak Guggul and Arogyavardhini Vati, TriphalaKwath and other herbal formulations, which are noted for their effectiveness in reducing overall lipid levels, including serum cholesterol and triglycerides. These are well-documented for their roles in managing lipid levels and promoting metabolic health. The finding underscores the significance of herbal treatment in managing dyslipidaemia and obesity, providing valuable insights for consumers and healthcare providers in making informed choices regarding herbal treatment. Overall, this research contributes to the understanding of the role of Ayurvedic formulations in contemporary health care, promoting a comprehensive approach to managing lifestyle-related disorders. This multifaceted approach is crucial for effectively addressing obesity and lipid disorders.

INTRODUCTION: Ayurveda is a Sanskrit word that means "knowledge" or "Veda" of life. Veda also means "science." One of the world's oldest medicinal systems, Ayurveda was developed in India over 3,000 years ago. Its origins can be traced back to the Vedic era, specifically in the Atharvaveda, which mentions herbal medicines and healing practices.

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The pharmacopoeia of Ayurveda is a rich legacy of herbal traditions that describes the medicinal applications of more than 600 plants in seventy books, containing 8,000 medicinal combination formulation.

Together, the Atharvaveda, Charak Samhita, and Sushrut Samhita provide descriptions of over 700 medicinal herbs, covering everything from their flavour, appearance, and effects on digestion to their safety, effectiveness, dosage, and advantages [1, 2]. Technology development, hectic schedules, sedentary lifestyles, and dietary changes have increased a person's risk of developing several "Lifestyle Disorders," with obesity and lipid

disorders being among them. Obesity is massively rising worldwide due to the shift in living style [3]. As well as work conditions. Obesity is a condition marked by excess body weight and fat accumulation. It is the primary cause of excessive calorie intake and decreased physical activity, which ultimately results in major health issues like diabetes, cardiovascular disease, and arthritis. According to Ayurveda, Sthaulya, or obesity, is a state in which increased Medodhatu is produced and insufficient nutrition is used to support other Dhatus in the body as a result of the aggravation of Doshas [4]. An indicator of obesity is the body mass index (BMI), which is calculated by dividing a person's weight by their height squared. Numerous herbs and formulations for treating obesity are described in the Indian medical system's Ayurveda. A formulation known as Herbal Formulation for Obesity, developed by Baidyanath Bhawan Pvt. Ltd., contains triphala, trimad, guggul, and vrikshamla. According to Ayurvedic pharmacology, each of these plants has been demonstrated to aid in weight management. Additionally, studies have shown that every element in this composition has anti-obesity and anti-hyperlipidemic properties [5, 6].

$$\text{BMI} = \text{weight (kg)} / \text{height (m)}^2$$

Causative Factors for Obesity: The situation of obesity is complex and influenced by numerous factors. The following are some of the main contributing factors.

Dietary Practices: Consuming processed, high-calorie foods and sugary drinks can lead to excessive weight gain.

Physical Inactivity: Being sedentary and engaging in little to no exercise can lead to obesity.

Genetics: Obesity risk may be raised by genetic predisposition and family history.

Medical Disorders: Weight gain can result from several medical disorders, including hypothyroidism and hormonal abnormalities.

Psychological Factors: Emotional overeating, despair, and stress can all lead to obesity. Environmental influences include the availability of bad dietary options, the absence of secure exercise areas, and socioeconomic considerations [7].

Ayurveda offers a comprehensive approach to managing lipid disorders, commonly referred to as dyslipidemia. According to Ayurveda, "*MedovahaSrotodushti,"* or the imbalance in fat metabolism, is connected to lipid problems. Obesity, elevated cholesterol, and associated problems can result from this imbalance. The approach of Ayurvedic therapy is to restore this equilibrium by utilising herbal remedies and making dietary adjustments. Research has demonstrated the effectiveness of formulations such as Navak Guggul, Arogyavardhini Vati, and Shuddha Guggulu. They are well-known for reducing cholesterol and improving overall metabolic health [8]. In individuals with coronary heart disease, *Terminalia arjuna* has been shown to significantly lower total and LDL cholesterol, as well as lipid peroxidation, in a randomised controlled experiment [9]. In Ayurveda, the symptoms of *Sthaulya/Medoroga* are analogous to those of obesity and dyslipidaemia. The two most commonly used medications for treating Sthaulya are HaritakiChurna and Vyoshadi Guggulu [10].

Causative Factors for Lipid Disorders: Dyslipidaemia and other lipid disorders are caused by several variables that affect their metabolism. Key contributing factors include:

Genetic Predisposition: Abnormal lipid levels can result from inherited disorders such as familial hypercholesterolaemia.

Dietary Practices: Consuming foods high in cholesterol, trans fats, and saturated fats can lead to lipid imbalances.

Sedentary Lifestyle: Not enough exercise can raise triglyceride and LDL (bad cholesterol) levels.

Medical Conditions: Lipid metabolism can be affected by conditions like kidney disease, diabetes, and hypothyroidism.

Medications: Many medications, such as beta-blockers and steroids, can cause abnormalities in the lipid profile.

Hormonal changes, particularly those that occur after menopause, can affect cholesterol levels, and lipid levels tend to increase with age [11].

Method: Literature was screened from electronic databases like PubMed, Google Scholar, and Web of Science using the keywords 'Ayurvedic medicine' or 'obesity management' or 'lipid disorder' to identify randomised trials. From this search, Ayurvedic formulation and ingredients were identified.

Obesity: Obesity is a significant health concern globally, with over 4 million deaths each year attributed to being overweight or obese. It is linked to various chronic diseases, including cardiovascular diseases, diabetes, and certain cancers, making its management crucial for overall health. In Ayurveda, obesity is referred to as "*AtiSthoulya*" and "*Medoroga*," which indicates an excess accumulation of fat (meda) in the body due to various lifestyle and dietary factors. Factors such as excessive intake of heavy, sweet, and cold foods, lack of physical activity, and poor lifestyle choices, including excessive daytime sleeping and mental stress. Obesity can be understood as a chronic disorder of energy imbalance, characterised by a long-term excess of energy intake over energy expenditure. This excess energy is stored as adipose tissue, leading to weight gain. A central focus in understanding obesity is the elucidation of the complex neuromolecular mechanisms that regulate energy homeostasis. These mechanism involves various pathways in the brain that control appetite and satiety, particularly the leptin-melanocortin pathway in the hypothalamus, which plays a critical role in regulating energy balance [12].

There is compelling evidence that genetic factors significantly influence body fat mass and body mass index (BMI). Studies indicate that adiposity is a highly heritable trait, with estimates of heritability ranging from 40% to 70%. This suggests that obesity results from gene-environmental factors contributing to the expression of genetic predispositions [13]. The regulation of gut-derived hormones, such as ghrelin and peptide YY, interacts with the central nervous system to influence hunger and satiety. This interplay is crucial for understanding how energy intake is controlled and how disruptions in these pathways can lead to obesity. Certain medications, such as insulin and corticosteroids, can lead to weight gain. Additionally, various endocrine and neuroendocrine diseases, like Cushing's syndrome and hypothalamic disorders, are associated with obesity. These conditions can disrupt normal appetite control and energy expenditure [14]. Obesity is increasingly recognised as a significant risk factor for various types of cancer. The mechanisms through which obesity influences cancer development are complex and multifaceted. The mechanism by which obesity promotes cancer development involves a complex interplay of inflammatory processes, hormonal changes, and metabolic alterations [15]. The Obesity epidemic poses significant public health challenges, leading to increased morbidity and mortality. Understanding the physiological and molecular mechanisms underlying obesity is crucial for the development of safe and effective medications. Sophisticated multimodal Ayurvedic treatments for chronic illnesses, including fibromyalgia, hepatic cirrhosis, and osteoarthritis, have been well-researched in clinical trials. The use of Ayurvedic medicine for treating obesity has not been explored yet in clinical settings [16, 17, 18].

Ayurvedic medicine emphasises a whole-system approach, integrating various therapies that target the root causes of obesity. This includes dietary changes, yoga, and lifestyle modifications tailored to each individual's constitution and imbalance [19]. The incorporation of yoga therapy is significant in Ayurvedic treatment for obesity. Yoga not only promotes physical activity but also enhances self-awareness and stress management. And emotional well-being. Studies have shown that yoga can lead to psychosocial changes that support sustainable weight loss, making the experience more manageable for individuals [20, 21].

Ayurvedic interventions include semi-standardised dietary guidelines that focus on the qualities of food and their effects on the body. Participants are encouraged to make nutritional choices that align with their Ayurvedic constitution, which can aid in weight management [22]. A study was conducted on a multifaceted strategy for obesity treatment using Ayurvedic medicine, and it was found that participants lost an average of 3.5kg during the intervention, with continued weight loss observed at follow-up. This suggests that the Ayurvedic approach can be effective in achieving and maintaining weight loss [23, 24]. Ayurvedic treatments include "Shodhana" (detoxification) methods, such

as "Vamana" (therapeutic vomiting) and "Lekhna Vasti" (medicated enemas), to eliminate excess fat and toxins from the body. These procedures help balance the doshas (body energies) and improve metabolic function. The Ayurvedic approach to managing obesity is comprehensive, focusing on dietary and lifestyle modification, detoxification and psychological support [25].

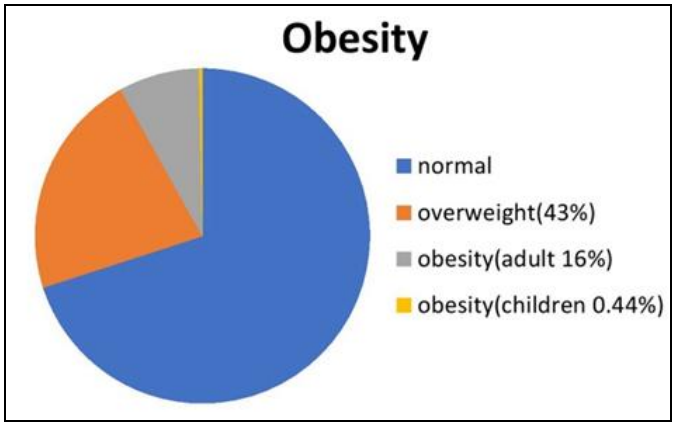

FIG. 1: RATIO OF OBESITY ALL OVER THE WORLD 10

TABLE 1: WORLD HEALTH ORGANISATION (WHO) CLASSIFICATION OF WEIGHT USING BODY MASS INDEX (BMI) FOR WHITE, HISPANIC, AND BLACK INDIVIDUALS [26, 27]

Classification	BMI (kg/m^2)
Severely underweight	<16.5
Underweight	<18.5
Normal weight	18.5-24.9
Overweight	25.0-29.9
Obesity	30.0 and above
Obesity class I	30-34.9
Obesity class II	35-39.9
Obesity class III	<=40

TABLE 2: WORLD HEALTH ORGANISATION CLASSIFICATION OF WEIGHT USING BODY MASS INDEX (BMI) FOR ASIAN AND SOUTH ASIAN

Classification	BMI (kg/m^2)
Overweight	23-24.9kg
Obesity	<25kg

A Relative Marketed a Drug for Obesity: There were 65 different herbal and ayurvedic anti-obesity products available online, in pharmacies, or both. Of them, 20 (31%) had names derived from the substances (such as triphala, garcinia, and shuddh guggul), and 45 (69%) had appealing names derived from their purported ability to reduce obesity (such as lofat and slimtrim). Both regional and well-known pharmaceutical enterprises produced these goods. Twenty (31%) of the goods were sold in pharmacies, 15 (23%) could only be purchased online, and 30 (46%) could be marketed in both locations. The remaining 57 (88%) of the 65 goods were P and P products, whereas just 8 (12%) of them were mentioned in classical writings.

TABLE 3: LIST OF MARKETED PRODUCTS FOR OBESITY

Marketed product for obesity/ formulation	Ingredients	Dose	Reference
Tablet HFO-02 (500 mg)	Triphala, Trimad, Guggul and Vrikshamla	twice daily	6
Vyoshadi Guggulu	---	Thrice daily	10
Haritaki Churana	---	Twice daily	
Triphala guggul	Hirda, beheda, amlaki, pippali, guggul	Thrice daily	28
Gokshuradi gugul	Guggul, shunth, mire, pippali, hirda, beheda, amalaki, nagarmotha	Thrice daily	
Sinhanad guggul	Hirda, beheda, amalaki, gandhakerandsneha	Thrice daily	

Lipid: Carbon, hydrogen, and oxygen atoms make up lipids; occasionally, they also contain phosphorus, nitrogen, sulfur, and other elements. In this regard, the primary lipids found in foods and the nutritional process are fats and oils. Many biological models (cellular, animal, and human) support the structural, metabolic, and nutritional significance of lipids in the body.

Lipids are essential to an organism's growth and development, and an individual's age and physiological condition determine the number of lipid molecules, primarily fatty acids, required. Lipids are also crucial for the development and prevention of various diseases, particularly chronic, non-communicable disorders [29].

Triglycerides (TG), which are esters made of glycerol connected to three long-chain fatty acids; cholesterol, which is made up of hydrocarbon rings; and phospholipids, which are made up of fatty acids with a phosphate group, are the three most significant kinds of lipids. The cell membrane

contains cholesterol, a waxy, fat-like material (lipid) that is a precursor to bile acids and steroid hormones. Lipoproteins are lipid and protein-based molecules that carry cholesterol to the bloodstream because it is insoluble in water.

High-density lipoprotein cholesterol (HDL-C) and low-density lipoprotein cholesterol (LDL-C) are the two main forms of lipoproteins. The 'good' cholesterol, HDL-C, helps eliminate LDL-C from the arteries, while LDL-C is the 'bad' cholesterol because it causes atherosclerosis. The total amount of LDL-C, HDL-C, and triglycerides in the blood is collectively referred to as total cholesterol [30, 31].

Dyslipidaemia is a condition of lipoprotein metabolism characterised by either the overproduction or shortage of lipoproteins, or both. The development of atherosclerosis is facilitated by elevated levels of atherogenic lipoproteins, particularly LDL, as well as IDL. This can then result in peripheral vascular diseases (PVD), cerebrovascular disorders (CVD), coronary artery disease (CAD), etc. Dyslipidaemia may not be directly associated with any diseases or disease conditions in Ayurveda [32].

In Ayurveda, dyslipidaemia is seen as a Santarpanjanyavyadhi (disease of overnutrition) characterised by Medo dhatu dushti (abnormality of fat tissue). A condition occurs owing to medovridhi, which subsequently limits the nutrition of other dhatus. Medoroga or Sthaulya are conditions primarily characterised by the vitiation of medo dhatu (adipose tissue), which serves as the fundamental dushya in obesity and dyslipidaemia [33].

Changes in lipid levels have a significant impact on health and are crucial for the development of disease. "Good cholesterol," or high-density lipoprotein (HDL), helps eliminate bad fats. On the other hand, the buildup of triglycerides and low-density lipoprotein (LDL), commonly referred to as "bad lipids," damages artery walls and increases the risk of cardiovascular diseases [34].

Abnormalities in lipid metabolism have been linked in recent research to more than 80 diseases, underscoring their complex biological significance. To learn more about lipid biology, these studies examine metabolic pathways, such as those involving acylceramides and nonlysosomal sphingolipids [35]. Fredrickson's classification approach categorises diseases of lipid metabolism into five groups based on the underlying pathways and related medical issues [36]. According to Natesan and Kim (2021), hyperlipidaemia is the abnormal accumulation of lipids in the bloodstream that raises the risk of serious medical disorders [37].

Elevated levels of undesired lipids are a defining feature of this group of disorders, and abnormalities in various lipoprotein classes are necessary to classify particular metabolic diseases. Structural problems in lipoproteins, apolipoproteins, or lipid transfer proteins frequently cause these conditions. Typically referred to as nuclear fatty acid receptors, peroxisome proliferator-activated receptors (PPARs) play a crucial regulatory role in lipid metabolism.

These receptors have an impact on pathways linked to metabolic diseases linked to obesity, including insulin resistance, hyperlipidaemia, and coronary artery disease. Additionally, PPARs have been investigated as potential therapeutic targets for the treatment of various illnesses [38, 39].

Postmenopausal women are particularly susceptible to lipid metabolism diseases, including osteoporosis and atherosclerosis, which are urgent worldwide health concerns [40]. The widespread consequences of lipid dysregulation are further highlighted by the excessive lipid build up in muscle fibres, which is associated with the onset of myopathy and carnitine deficiency [41].

Numerous disorders are linked to dysregulation of lipid metabolic pathways, including those caused by the excessive buildup of lipids, such as xanthomas, Bassen-Kornzweig syndrome, chylomicronemia syndrome, familial lipoprotein lipase deficiency, Niemann-Pick disease (types A and B), GM1 and GM2 gangliosidoses, methylmalonic acidemia, and Gaucher illness [42].

Hyperlipidemia, which is a major cause of lipid dysregulation, can be acquired and is frequently brought on by secondary causes like diabetes, excessive alcohol intake, hypothyroidism, kidney disorders, nephrotic syndrome, or the prolonged use of drugs like diuretics, estrogens, and β-blockers.

TABLE 4: LIST OF AYURVEDIC FORMULATIONS USED FOR THE TREATMENT OF LIPID DISORDERS

Sl. no.	Ayurvedic formulation	Function	Reference
1	Triphala Kwath	This formulation is notes for its effectivness in reducing overall lipid levels, including serum cholesterol and trigylcerides. It is often combined with other substances to enhance its therapeutic effects.	43
2	Trikatu Capules	Trikatu is recognized for its ability to reduce Medodhatu(fat tissue) and improve digestion. It acts by enhancing the secretion of digestive juices and improving nutrient absorption, which helps in managing lipid levels.	
3	Madhu (Honey)	Used as an Anupana (vehicle). Madhu is noted for its therapeutic properties, including its ability to inhibit HMG-CoA reductase, an enzyme crucial for cholestorlproduction.	
4	Capsule Shuddha Guggulu	Used traditionally for lipid lowering properties	3
5	Kwath Preparation	Modified Kwath, prepared using the Ghanasattva method. This preparation enhances the bioavaibility of the active ingredient, making it effective forf treating Dyslipidemia.	
6	Rasayana Preparation	Rasayana (rejuvenating) properties, which help in the formulation pf optimul Dhatu(tissues) and protects the body from the adverse effects of vitiated doshas.	

TABLE 5: LIST OF MEDICINAL PLANTS USED FOR THE FORMULATION OF AYURVEDIC DRUGS

Sl. no.	Plant Name, Family and Parts used	Active Phytochemicals	Mechanism of Action	References
1	*Alpinia galanga* Linn. Zingiberaceae Rhizome	Galangin	It decreases serum lipids, lipid peroxidation and accumulation of hepatic triglycerides.	44
2	*Lagerstroemia speciosa* (L.) Pers. Lythraceae Leaf	Corosolic acid	It lowers body weight and enhance lipid metabolism by preventing adipose tissue growth, encouraging lipolysis, and enhancing insulin sensitivity.	45
2	*Boerhaaviadiffusa*L Root	Punarnavine, Boeravinone-A Liriodendrin, Quercetin, Kaempferol	Diabetes-linked hyperlipidemia. Suppression of the formation and accumulation of fat cells.Itreduces water retention in the body, which aids in temporary weight loss.	46, 47
3	*Morindacitrifolia*L. Rubiaceae Fruit	Iridoids, Quercetin, Kaempferol	Managing obesity using a variety of strategies, including lowering oxidative stress, controlling appetite, preventing the development of fat cells, and enhancing lipid and glucose metabolism.	48, 49
4	*Panax ginseng* C.A.Mey. Araliaceae Dried root or rhizome	Ginsenoside and Gintonin,	Insulin resistance is improved and adipogenesis is inhibited.	50, 51
5	*Syzygium aromaticum* (L.) Merr. &L.M.Perry Myrtaceae Dried flower buds	Eugenol, Ellagic Acid	The expression of adipogenic transcription factors, including sterol regulatory element-binding transcription factor1 (SREBP-1), nuclear receptor peroxisome proliferator-activated receptor-(PPAR-), CCAAT/enhancer-binding protein (C/EBP), and C/EBP, controls the mechanism underlying adipogenesis.	52, 53
6	*Salvia rosmarinus* Spenn. Lamiaceae Leaves	Carnosic acid, Carnosol, Apigenin	By improvement of metabolic and inflammatory condition, stimulation of fat burning, and inhibition of fat accumulation	54, 55

7	*Plantago asiatica* L. Plantaginaceae Leaves and Seeds	Aucubin, Baicalein, Apigenin, Plantamajoside	It improves the lipid profile, increases fat metabolism, decreases lipid peroxidation, and modifies lipid metabolism.	56, 57
8	*Aloysia citrodora* Paláu Verbenaceae leaves and flowering tops	Phenylethanoid glycoside (Verbascoside and Isoverbascoside)	These shows lipid-lowering effects in the treatment of obesity.	58
9	*Moringa oleifera* Lam. Moringaceae Leaves and pods	Quercetin, Kaempferol, Chlorogenic acid, Gallic acid	It encourages lipolysis and prevents lipid buildup and adipocyte differentiation.	59
10	*Grifola frondosa* Meripilaceae Fruiting body	β-Glucans	Weight loss and reduce fat accumulation is occur by lowering serum triglycerides, cholesterol, and LDL levels and alsoincrease fat oxidation.	60
11	*Nigella sativa* L. Ranunculaceae Seeds	Thymoquinone, Alpha-hederin, Linoleic acid	These reduce cholesterol, support fat metabolism and may support weight loss.	61, 62
12	*Allium sativum L* Alliaceae Bulb	Allicin, S-allyl cysteine, Diallyl disulfide	It reduces lipid accumulation and fat absorption	63
13	*Curcuma longa* L. Zingiberaceae Rhizome	Turmerone, Curdione, Curcumin,	It prevents the development of fat cells	64
14	*Nekemias grossedentata* (Hand.-Mazz.) J.Wen & Z.L.Nie Vitaceae Young leaves and tender stems	Dihydromyricetin, Catechins, Quercetin, Kaempferol	It affects the lipogenesis and lipolysis-related enzymes.	65
15	*Astragalus mongholicus* Bunge Fabaceae Root	Astragaloside IV, Calycosin,	These promising bioactive substances are utilized to treat obesity.	66, 67
16	*Codonopsis pilosula* Nannf. Campanulaceae Root	Polysaccharides, Saponins, Tangshenoside I.	Adipogenic transcription factors (PPARγ, SREBP-1c, etc.) are down regulated.	68
17	*Commiphora wightii* (Arn.) Bhandari Burseraceae Oleo-gum-resin	Guggulsterones, Myrrhanone A, Commipheric acids, Guggulipid	It possesses lipid-lowering properties, may alter lipid metabolism, and acts in obesity and dyslipidemia.	69
18	*Atractylodes macrocephala* Koidz. Asteraceae Rhizome	Atractylenolide I, II, III Atractylon, β-eudesmol, Hinesol	This alters lipid accumulation, adipocyte development, and enzymes involved in lipid metabolism.	70, 71
19	*Tinospora cordifolia* (Willd.) Hook.f. & Thomson Menispermaceae stem	Tinosporide, Tinosporon, Cordifol, Cordifolide,Quercetin and Apigenin	It controls the reduction of appetite, the promotion of lipolysis, the inhibition of lipogenesis, and the oxidation of fat. It also enhances insulin sensitivity and decreasess lipid buildup,	72, 73
20	*Glycyrrhiza glabra* L. Fabaceae Root and rhizome	Glycyrrhizin, Glabridin, Licoricidin	It decreases the intestinal dysbiosis linked to obesity, enhances insulin sensitivity, and links visceral fat accumulation.	74, 75

DISCUSSION: The rising prevalence of lifestyle disorders, particularly obesity, is linked to various chronic diseases. This growing concern necessitates a multifaceted approach to health management, particularly in the context of dietary habits and lifestyle choices. By focusing on Ayurvedic treatment, this review study highlights the need for holistic approaches that incorporate dietary modification, detoxification, and psychological support, as well as the profiling of Ayurvedic single drugs and formulations used in the management of obesity and lipid disorders. The

paper highlights the rich pharmacopoeia of Ayurveda, detailing over 100 medicinal plants and their applications in treating obesity and lipid disorders. This rich pharmacopoeia serves as a valuable resource for developing effective herbal formulations that can aid in weight management and lipid regulation. A significant number of products are available, with varying degrees of scientific backing. This analysis is crucial for consumers and healthcare providers to make informed decisions about herbal treatments. The study identifies specific formulations, such as Navak Guggul and Arogyavardhini Vati, known for their effectiveness in managing dyslipidaemia and obesity. These formulations are not only rooted in traditional practices but also supported by modern research, demonstrating their potential in clinical applications. Additionally, a comparative clinical efficacy analysis of TriphalaKwath and Trikatu capsules was conducted to evaluate their clinical applications. Overall, this review data holds promise in bridging the gap between traditional medicine and modern pharmacology. By validating Ayurvedic practices through scientific methods, the study encourages further research and development in the field of herbal medicine, promoting a more integrative approach to health care challenges posed by obesity and related conditions. The continued exploration and validation of Ayurvedic practices should be conducted through rigorous scientific research. Ayurvedic principles with modern scientific methodologies can lead to an innovative solution for managing lifestyle-related disorders.

CONCLUSION: A major healthcare concern is the rising incidence of lifestyle illnesses worldwide, especially obesity and lipid disorders. Modern lifestyle choices, such as eating habits and sedentary living, are frequently connected to these illnesses. The ancient medical system of Ayurveda provides a thorough and all-encompassing method of treating various lifestyle-related illnesses. Many of the medicinal plants and preparations found in its pharmacopoeia have long been utilized to treat ailments similar to dyslipidemia (Medoroga) and obesity (Sthaulya). Some formulations, such as TriphalaKwath, Arogyavardhini Vati, and Navak Guggul, are well known for their ability to lower total lipid levels, including serum triglycerides and cholesterol, and to support metabolic health.

The need for ongoing, thorough scientific research and validation is highlighted by the abundance of Ayurvedic treatments for managing fat and obesity, each with differing degrees of scientific support. The holistic tenets of Ayurveda and the effectiveness of its herbal formulations offer a promising path toward integrative healthcare, underscoring the need for more study to confirm its place in contemporary health management.

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