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A CRITICAL DISCOURSE ANALYSIS OF MEDICAL ASSOCIATIONS AND RESEARCH JOURNALS ON OBESITY USING VAN DIJK'S MODEL

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Abstract

This present study aims at exploring the CDA approach to determine the differences in the discourse of research articles in medical journals and associations. The study investigates how the associations delete, select, construct or generalize information for their benefits. The information was gathered from medical research articles and associations about obesity. World Health Organization (WHO), Obesity Medicine Association (OMA), National Institutes of Health (NIH), National Health Services (NHS), Healthline, Mayo Clinic are among the organizations that have been chosen for this study. The macro structure of Van Dijk model is used to address the research questions and to determine whether medical journals and associations are on the same page or not. As a result, associations have more authority than journals. The results of this descriptive self-study are summarized in graph charts and tables.

Keywords: Critical Discourse Analysis, Discourse Analysis, Hegemony, Applied Linguistics, Van Dijk, Medical Discourse

1. INTRODUCTION

This study makes use of discourse analysis and critical discourse analysis. Discourse analysis is a process for analyzing written language, spoken language, or sign language usage. Furthermore, rather than being a distinct discipline, CDA is defined as a multi-methodological, multidisciplinary approach. CDA, according to Van Dijk (2009), is a blend of two things: theory and application critical

analysis, rather than critical analysis. The most important aspect of this study is to raise awareness about the conflicting information we obtain from journals and associations regarding the disease (obesity) in its three primary categories. Obesity's symptoms, causes, and treatment are all covered here.

In order to find out overt and covert differences in social relationships, CDA relies on the language that is used in institutional and political and other specific discourses. It is believed that the use of language in speech and writing is a social act that "implies a dialectical relationship between a particular discursive occurrence and the situation(s), institution(s), and social structure(s) that frame it" (Fairclough and Wodak, 1997: 258). Discourse is socially constitutive as well as socially moulded as a result of this reciprocal interaction.

CDA is related to discourse analysis that examine language in context. However, CDA distinguishes itself in terms of describing and evaluating the manipulation of facts, power relations and abuses, social or political dominance, and the use of language by various institutions to carry out activities. Furthermore, CDA reveals people's conduct under various dominating scenarios. These distinctions distinguish CDA from DA, which is described as: according to Van Dijk CDA is a study that explains how text and language is used in a social political environment reproduce social injustice, power abuse, and domination. CDA plays a vital role in research since it aids in understanding and exposing the occurrences of inequality, racism, and oppression. Van Dijk defines three sorts of power institutions: military power based on force, rich power based on money, and power of parents, professors, institutions, and organizations based on knowledge. Power makes a group dominant, and this power is subsequently incorporated into legislation, rules, norms, and habit, resulting in hegemony.

The essential concept of CDA is that discourse is viewed as more than just a linguistic study object. It is all about comprehending language in context, as well as the underlying knowledge and aims that support the language or the actions that are performed as a result of certain lexical choices. This article is a qualitative and descriptive study of medical text analysis; I have emphasized the similarities and differences between medical research and suggestions from association directories in this paper. On a textual level, researchers are more specific and precisely speaking or using language only at the information delivery level, social context, class, or set up is thoroughly neglected, disease causes are primarily focused on but what should be the next step, people who are suffering from this type of disease what they should do to live a healthy life.

Each journal and association has its own set of guidelines for dealing with Obesity. In medical terminology having too much bodily fat is referred to as obesity. When this fat accumulates, it could have a negative impact on health. It

raises the risk of developing various conditions and illnesses, including high blood pressure, type 2 diabetes, coronary heart disease, cancer, and obstructive sleep apnea. Obesity is on the rise throughout the world, and it is now recognized as one of the most pressing public health problems of our day. The researcher in this paper uses the Van Dijk macro-structure model to investigate the nature of language. The macrostructure model of Van Dijk is organized into four categories: deletion, selection, generalization, and construction. Using the Van Dijk model's four fundamental principles, we may analyze any piece of literature for in-depth understanding.

As a result, the purpose of this work is to examine the language used by medical researchers and associations as they both present information about obesity disease and guidelines for controlling it. The study looks at how both utilize language to influence the mind, misuse authority, and misrepresent the facts. Furthermore, CDA will use dialogue to determine which group in the medical sector has more power over others. This will assist the reader realize that social power may be used not only to influence other institutions, but it can also be used locally to enact for the other members of a dominant group.

1.1 Significance of the Study

The focus of this research is on analyzing the language of associations and medical research journals to identify discursive practices and the way they use language to portray their stances. This is qualitative research and the analysis is done by applying Van Dijk's macrostructure of language. Macrostructure identifies the authority figure based on the discursive practices that investigate in previous model. The review is extremely informative and opens up new possibilities for clinical scientists and researchers.

1.2 Problem Statement and Objectives

The study critically analyzes the linguistic gaps between journal and medical association recommendations at the macrostructure level.

The research objectives are as follows:

1. To find out the similarities and differences in the articles of medical journals and associations.
2. To find that associations use more deletion or medical research journals.
3. To find that associations use more generalization or medical research journals.

1.3 Research Questions

This study aims at answering the following research questions:

1. What are the similarities and differences in the articles of medical journals and associations?
2. How deletion is more in the discourse of associations than journals?
3. Why associations use more generalization than medical research journals?
4. How deletion and selection is done by associations?
5. How generalization and construction is present in journal recommendations?

In order to answer these research questions, the following research methodology will be adopted.

2. RESEARCH METHODOLOGY

The nature of this research is qualitative as well as quantitative that uses the CDA approach. The data in this study are articles of obesity from medical journals and associations. Data is analyzed through macro structure of Van Dijk model. Discourse analysis is a field of study that analyzes the use of real language in communication.

The data has been collected in two different sets, which are as follows:

(1) The first set comprises research articles from medical journals. All of the articles are related to disease Obesity.

(2) The second body of data is shaped by the information appearing in medical associations i-e, World Health Organization (WHO), Obesity Medicine Association (OMA), North American Association for the Study of Obesity (NAASO), National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH), National Health Services (NHS), Mayo Clinic related to one disease Obesity.

The thematic approach mainly deals with macrostructure of Van Dijk model. The macrostructure of a text is obtained through applying to that text the four macro rules of deletion, selection, generalization, and construction.

The Deletion macro rule is the most basic and most used macro rule. It eliminates all text-based propositions that are unrelated to the comprehension of other discourse propositions and do not express facts that can be gathered together as usual characteristics of a more global fact denoted by a discourse macro-proposition.

The second macro rule, selection, involves selecting information relevant to the building of macro proposition of the text. The the third macro rule

generalisation refers to the process of abstracting from the semantic details of the text. The fourth rule is Construction means constructing or making links between the things.

3. DATA ANALYSIS AND DISCUSSION

3.1 Keywords / Key terms in Dietary Treatments of Medical Associations and Research Articles related to disease: Obesity

Research Articles	Medical Associations
• Weight loss diets • the consumption of various macronutrients (carbohydrate, fat, and protein) • Low-carbohydrate diets • low fat diet • high protein diet • Mediterranean style diet • (DASH) • The Ketogenic diet • Fat-restricted nutrition • vegan diet (whole food/plant based) • time restricted • Weight Loss • Low-refined Sugar Diet • Regular Exercise • Low calorie diet (LCD)/(VLCD) • Omega-3 Fatty Acids • Traditional Dietary Patterns • Metabolic Risk Factors • Short sleep duration and obesity • Nutritional Interventions • weight-loss medications (WLMs) • liraglutide • orlistat • smoking • Bariatric Surgery	• Nutrition • Physical activity • Behavior • Medication • Healthy balanced diet • Dietary Changes • **Cutting calories** • **low calorie diet** • **Feeling full on less** • **Making healthier choices** • Healthy lifestyle changes • Limit high-carbohydrate or full-fat foods. • Lifestyle Interventions • Healthy Plant-based Diet • Limit Alcohol

3.2 A List of Generalizing Items in Medical Associations:

There is more generalization in Medical Associations. They are advising just general recommendations. While in the research articles related to Obesity, they are more focusing on the detailed description about general dietary recommendations. They are specifying those recommendations.

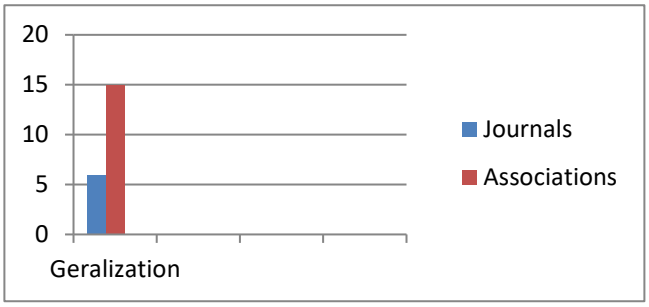
GENERALIZATION
1.Nutrition
2.Physical activity
3.Behavior changes
4.Medication
5.Healthy balanced diet
6.Dietary changes
7.Cutting calories
8.Low calorie diet
9.Feeling full on less
10.Making healthier choices
11.Limit high carbohydrate
12.Limit full fat diet
13.Limit alcohol
14. Healthy plant based diet
15.Exercise

3.3 Generalization in Research Journals:

GENERALIZATION
1.Weight loss
2.Increase physical exercise
3.Life style changes
4.Healthy diet

5.Avoid alcohol consumption
6.Increase water intake

Frequencies of generalization terms in Medical Associations and Journals



3.4 Deletion

As we have already discussed that medical associations are deleting the more details of dietary recommendations. Research journals are following the recommendations of advisories but they are also more focusing on the minor details.

- Foods are best eaten in their natural form
- Vegetables, fruits, whole grains, and legumes
- One serving of a soy product each day
- Limited amounts of green tea o Fish oil 3–4 g each day o Small meals eaten frequently throughout the day

Weight loss: overweight (body mass index (BMI): 25–30 kg/m^2) and obese (BMI > 30 kg/m^2) patients. It should not exceed 1 kg per week. It is recommended to avoid very low calorie diets (388 kcal/day).

The Paleolithic nutritional intervention is based upon a dietary pattern presumed to exist during the Paleolithic period (i.e., lasting 3.4 million years and ending 6000–2000 BCE). It differs from some other diets in that it excludes grains, dairy, and ultra-processed foods.

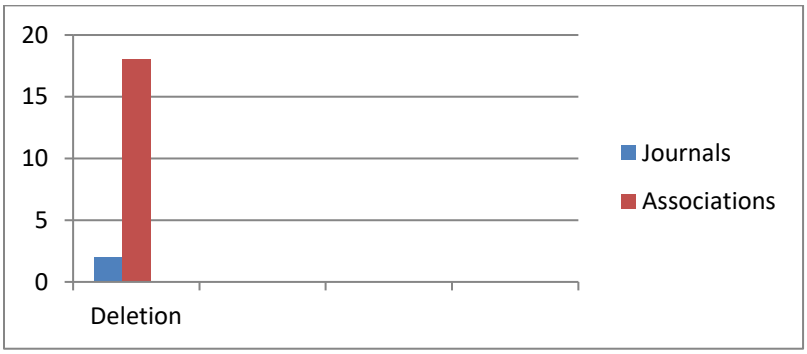
- Fresh vegetables, fruits, and root vegetables
- Grass-fed lean red meats
- Fish/seafood ggs
- Nuts and seeds

Naturally produced oils (olive, walnut, flaxseed, macadamia, avocado, and coconut)

.

3.4.1 Deletion in Journals

1.The most commonly used medications approved by the U.S. Food and Drug Administration (FDA) for the treatment of obesity include: • Bupropion-naltrexone (Contrave) • Liraglutide (Saxenda) • Orlistat (Alli, Xenical) • Phentermine-topiramate (Qsymia)
2.Moderate physical activity • Brisk walking • Cycling



3.5 Selection

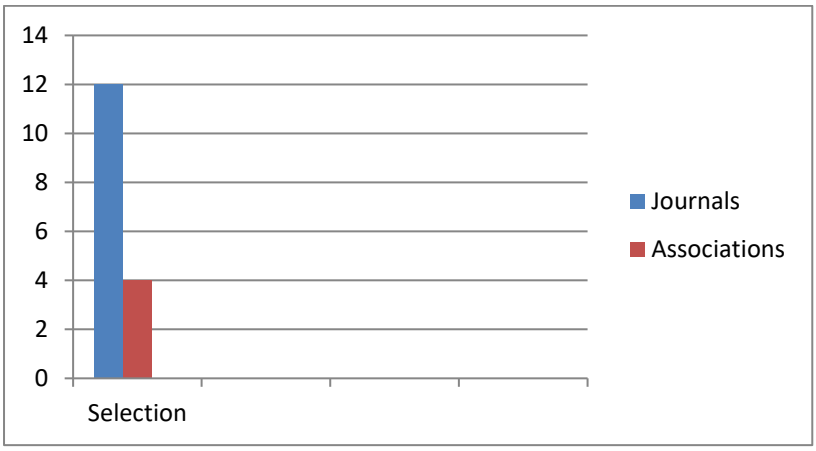
Selection means choice of words or the selected choice of vocabulary. It means that the words that are selected on the basis of disease. It can be said that research journals have chosen many disease - specific selected words.

SELECTION
1.Weight loss diets
2.Mediterranean diet
3.Low-refined sugar diet
4.Low calorie diet

5.Ketogenic diet
7.DASH
8.Intermittent fasting
9.Type 2 diabetes
10.Regular exercise
11.low carbohydrate diet
12.high protein diet

Medical Associations have selected a very general vocabulary to prevent from NAFLD. And they have selected the imperative sentence structure for the recommendations. For example:

- Increase regular exercise
- Eat a balanced diet
- Weight loss
- Physical activity

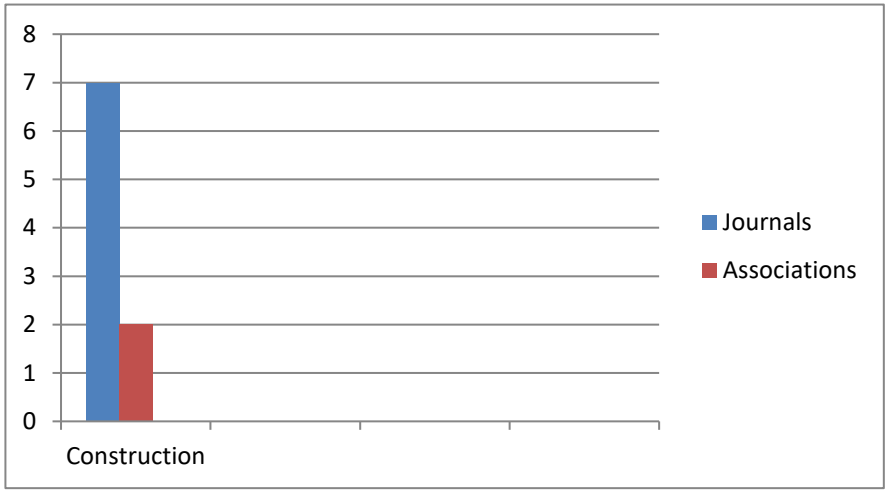


3.6 Construction

Construction means constructing or making links between the things. It is noticed that research journals have more constructed the links as compared to medical associations.

3.6.1 Construction in Medical journals and Associations

Research Articles	Medical Associations
1.Regular exercise-effective intervention to reduce weight	1.Healthy diet
2.Healthy dietary patterns-beneficial effects on obesity	2.Physical activity
3.Correlation between refined sugar intake(fructose) and obesity	
4.Correlation between salt intake and weight gain	
5.Correlation between alcohol and obesity	
6.Lifestyle changes and weight loss 7. Type 2 diabetes is one of the major links between obesity	

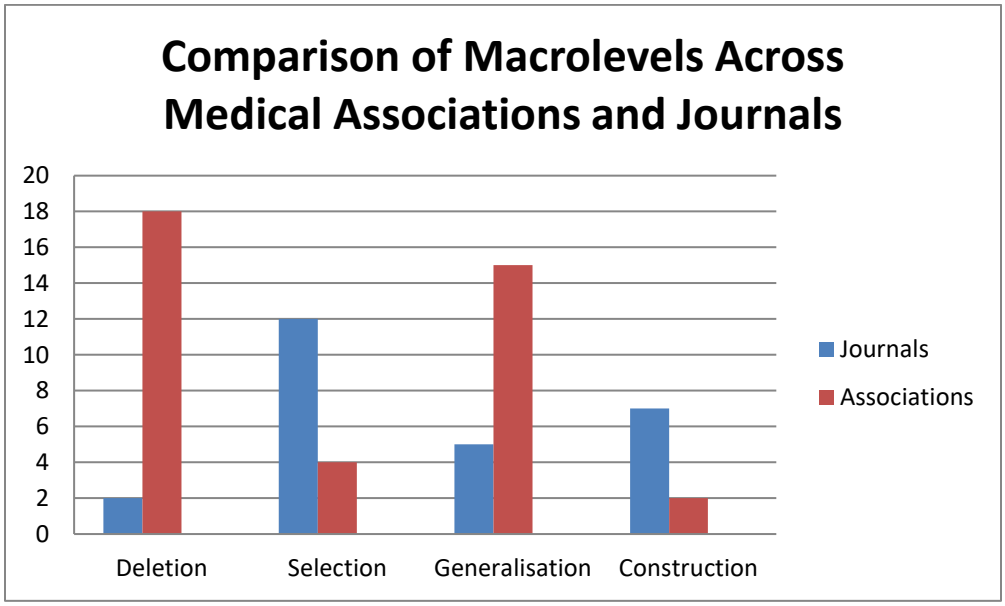


3.7 Symptoms

Associations	Research Journals	Discourse Analysis
• Body Mass Index (BMI) • Type 2 diabetes • Sleep apnea • Respiratory problems • Hypertension • Cardiovascular disease • some forms of cancer	• a body-mass index (weight divided by square of the height) of 30 kg m–2 or greater • Type 2 diabetes • Sleep apnea • Hypertension • Cardiovascular disease • Some forms of cancer • Diabetes mellitus • Coronary heart disease • Sleep-breathing disorders	Symptoms are almost same in research journals and associations.

3.8 Causes

Associations	**Research Journals**	**Discourse Analysis**
• Genetics • Nutrition. • Hormones • Medication • Environment • Sleep	• Genetics • Sleep • Hormones • Nutrition • Eating Disorders • Environmental factors • Culture • Energy intake • Behavior • Medication	**Generalization:** Associations generalize the information and write causes with brief description, while research journals write in more detail. There are research articles on the causes of obesity.



Van Dijk's model of Macrostructure was applied to the discourse of medical journals and associations, through which four levels were observed: deletion, selection, generalization and construction. The limitations of this study are limited number of articles and associations which provided limited data about symptoms, causes and dietary treatments of disease.

The purpose of observing the following four levels was to observe the course of manipulation and power in the medical discourse, and how irrelevant information is added in the articles, how selection is done to emphasize and highlight certain information and draw the attention of the readers; how, through generalization, the 'importance' of certain information was highlighted, how irrelevant information deleted and finally, how construction was done, mostly in articles. It is evident that power is shifted through discourse and the audience is manipulated by the associations.

First of all, the keywords or key terms relevant to disease were separated. The causes and symptoms of obesity were almost same in associations and journals. In journals, there was less deletion and generalization than associations.

ASSOCIATIONS	JOURNALS
American Obesity Treatment Association (AOTA)	1. Dietary approaches to the treatment of obesity (published in 2000 by Barbara J. Rolls) Journal Medical Clinics of North America
Obesity Medicine Association (OMA)	2. Current treatments for obesity (published in 2019 by Aruchuna Ruban) Journal of Clinical Medicine
World Health Organization (WHO)	3. The epidemiology of sleep and obesity by Rachel P. Ogilvie 2017 Journal of the National Sleep Foundation
National institute of health (NIH)	4. Obesity as a medical problem by Peter G. Kopelman (published in 2000 Macmillan Magazines Ltd.) 5. Effectiveness and tolerability of orlistat and liraglutide in patients with obesity in a real-world setting: The XENSOR Study by Juan J. Gorgojo-Martinez (published in 2019 Journal of Clinical Practices)
National Health Services (NHS)	6. Medical Consequences of Obesity by GEORGE A. BRAY (published in The Journal of Clinical Endocrinology & Metabolism 2022)
Mayo Clinic	7. Recommendations Regarding Obesity Surgery by M. Laville, MD (published in Obesity Surgery 2005)
	8. Nutrition and physical activity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022 (published in Obesity Pillars 2022)
	9. Perspective: A historical and scientific perspective of sugar and its relation with obesity and diabetes by Richard J Johnson (published in American society for nutrition 2017)
	10. Salt and obesity: a systemic review and meta-analysis of observational studies by Seyedeh Parisa Moosavian (published in

Selection	Deletion	Generalization	Construction
• Orlistat	Deleted	General information	Construction

• Liraglutide (Saxenda) • Naltrexone/bupropion (Mysimba) • Lorcaserin (Belviq) • Phentermine/topiramate (Qsymia) Selected medicines by associations and journals.	**information from associations: Proper quantity of Diet is not mentioned by associations** Energy (kcal) Reduce intake by 500-1000 kcal/ d Fat 20%-30% of total energy intake Carbohydrates 255% of total energy Protein 15% of total energy Fiber 20-30 g / d Choose whole grains, fiber-rich breakfast cereals, whole fruits, vegetables, and legumes. eat lots of fruit, vegetables, fish and starchy carbohydrate	**of medicines by associations: Side effects and how these medicines work in body is not mentioned by associations** Orlistat works by blocking about 30 percent of dietary fat from being absorbed, and is the most recently approved weight loss drug. Phentermine, an appetite suppressant, has been available for many years. It is half of the "fen-phen" combination that remains available for use. The use of phentermine alone has not been associated with the adverse health effects of the fenfluramine-phentermine combination. Sibutramine is approved for long-term use, and works to control eating by sending a signal of fullness (satiety) to the brain.	**by associations: Nutritional treatment, physical activity,** dietary therapy, behavioral therapy etc. Three weight loss drugs, for treating obesity, are Orlistat (Xenical), Phentermine, and Sibutramine (Meridia). The purpose behind medical association is to promote medicines than surgery.

	foods. Limit fatty, sugary and salty foods **Categories of surgery are deleted in associations only simple word surgery is used:** Bariatric surgeries (a) Adjustable gastric banding. (b) Roux-en-Y gastric bypass. (c) Sleeve gastrectomy. (d) Bilio-pancreatic diversion with a duodenal switch.		

After applying the Macrostructure Model, the four macro-rules of deletion, selection, generalization and construction, the frequencies were calculated in the medical journals and associations separately. The four macro-rules were identified and presented in graphs. In journals, selection of information was the most frequently done. The journals are highlighting information in more detail. The journals select and present directions with cause and effect relationship. The manipulation of the information was also seen through keywords analysis. May be the Associations think people have schematic knowledge about the phenomenon. That's why they just give general directions without explaining any cause effect relationship. Associations generalize the basic information about medicines. Side effects of medicines are deleted in American obesity treatment association.--The obesity medicine association has mentioned the side effects of these medicines. As we have already discussed that medical associations are deleting the further details of dietary recommendations. Research journals are following the

recommendations of advisories but they are also more focusing on the minor details of these directories by researching on the patients, by observing the causes and symptoms of the disease individually. So, it can be said that Medical Associations are more deleting the elements but journals are not. Associations select information to present in order to support their proposition. The reason behind this strategy is that there are more sponsors, medical pharmacies and food factories behind deciding their decisions.

4. CONCLUSION

It is therefore evident that the four macro-rules of deletion, selection, generalization and construction are useful way to examine the manipulation in language and discourse along with context. It is a practical model and can be applied on any type of text to study the course of manipulation of information, how power is exerted through language. The associations' recommendations are not clear because they are associated with different brands while journals are not associated with any type of brand or medicine company that's why their recommendations are clear and free from any type of prejudice.

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