

# The Effect of Age and Prescribed Dietary Supplements in Adult Women

## Introduction

### Purpose of Study:

Dietary supplements are available in order to alleviate many dietary deficiencies worldwide. Individuals can select the supplement that they wish to take at their own discretion or prescribed by physicians. The purpose of this study was to investigate the effect of age for women over the age of 18 in using dietary supplements prescribed by a physician or at their own discretion.

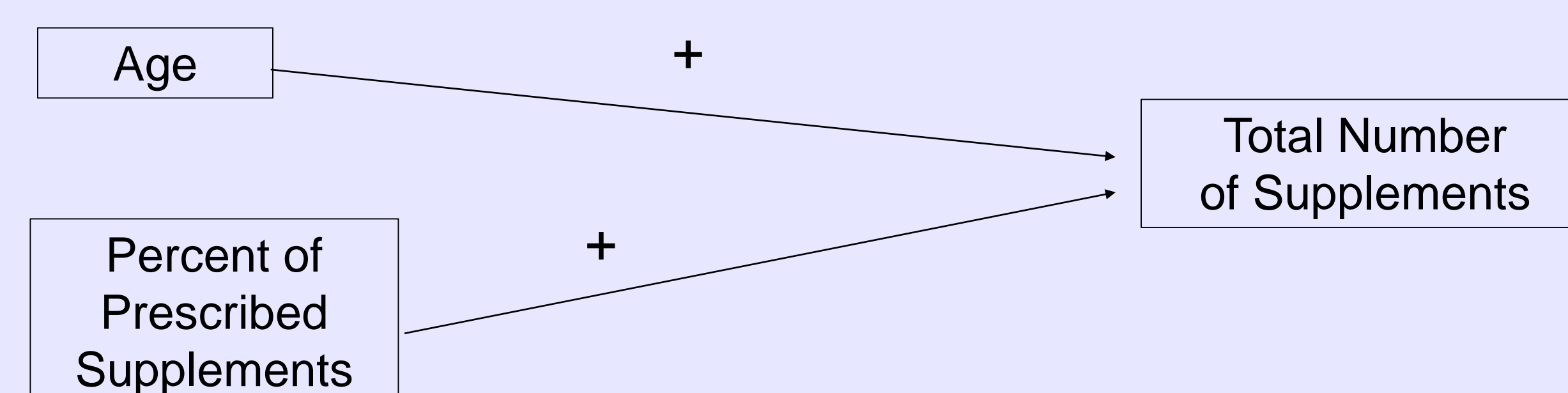
### Review of Literatures:

- Conner, Kirk, Cade, and Barrett (2003) found that women aged 40 and older opted to use dietary supplements for a variety of reasons ranging from social, psychological, knowledge, and economic factors.
- More than half of the adults and approximately one-third of children in the United States currently take more than one dietary supplement daily to fit their nutritional needs. Dietary supplements contribute to the dietary intake of nutrients as well as bioactive compounds in the United States (Gahche, et al., 2018).
- There are women in certain subgroups who can benefit from vitamin-mineral supplementation; including, but not limited to, older women, women on weight reduction diets, women who are trying to be pregnant and woman who shun dairy products (Manson & Blumberg, 1999).
- Current law and policies do not provide any background for monitoring the effects of dietary supplements once they have been licensed for use. Therefore, little information regarding the potential of adverse effects to dietary supplements is available. In a study with 200 participants, 55.5% of the respondents were sure of the potential safety regarding taking dietary supplements (Kardas, et al., 2018).
- Geller, et al. (2015) reported on 2,154 hospitalizations involving individuals aged 20-34 years of age (58%), 31.8% was accounted for single-supplement and herbal supplements. Herbal or complementary nutritional products for weight loss (25.5%) and increased energy (10.0%) were commonly implicated. Weight-loss or energy products caused (71.8%) of supplement-related adverse events involving palpitations, chest pain, or tachycardia.

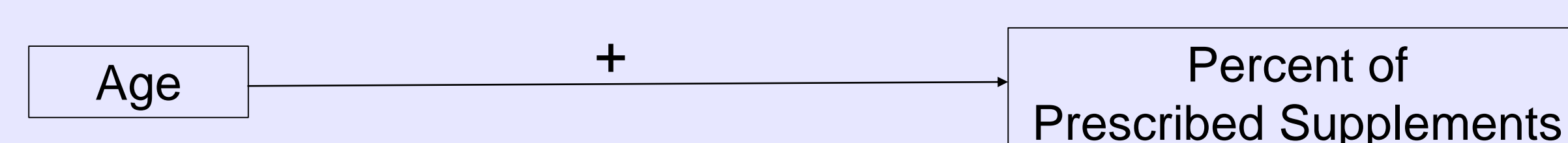
### Hypothesis:

The researcher hypothesized that there would be an effect of the total number of supplements from age. And percent of prescribed supplements.

**Figure 1:** Hypothetical model of the effect of the total number of supplements from age and percent of prescribed supplements in multiple regression.



**Figure 2:** Hypothetical model of the effect if the percent of prescribed supplements from age in linear regression.



## Methods

### Subjects:

The subjects were 101 adult females who were not pregnant or breastfeeding. The mean age is 36.77 and a standard deviation of 20.736. The minimum age was 18 with the maximum age being 84 years old.

### Measuring Instrument:

The measuring instrument was a questionnaire modified from Dietary Supplements and Prescription Medication (NHANES, 2016) developed by the Centers for Disease Control and Prevention (CDC). This instrument has 88 items.

### Procedures:

1. Upon receiving approval of the Institutional Review Board, participants were recruited via in person or via email. The researcher distributed the Quick Response (QR) codes of the online measuring instrument in person or via email.
2. The subjects signed the informed consent form.
3. The subjects took approximately 2 to 10 minutes to complete the measuring instrument.
4. The data were kept by the researcher in a password protected computer that only the researcher has access to.

### Data Analyses:

The hypothetical models were analyzed by multiple regression (see Figure 1) and linear regression (see Figure 2) by SPSS 25. The level of significance was .05.

## Results

- The most common supplements taken by the participants were Women's Multivitamin ( $n = 21$ ), vitamin D3 ( $n = 14$ ), vitamin C ( $n = 15$ ), and vitamin B12 ( $n = 9$ ).
- Both multiple regression and linear regression were significant. When analyzing age in relation to prescribed supplements, the hypothesis was supported.
- The multiple regression is represented by the equation:  
Total Number of Supplements =  $1.205 - 0.005 + 0.032(\text{age})$ .
- The equation represented by linear regression was:  
The predicted Percent of Prescribed Supplements =  $1.196 + 0.029(\text{age})$ .

## Discussion

As the age increased, the total number of prescribed supplements increased, too. When age and prescribed supplements increased, the total number of supplements being taken increased as well. This indicated that the hypothetical models were both supported and significant. The researcher recommends for future studies, to conduct the research with more participants who are taking vitamin supplements. Age is an effective predictor for the total number of supplements and the present of prescribed supplements. The percent of prescribed supplements is not an effective predictor for the number of supplements. Another variable for a future study would be to investigate race and education level. This would be more meaningful allowing for more variance. The limitations consisted of the online questionnaire not allowing for the participant to be able to write the dosage of the vitamin supplement being taken and limited number of supplements allowed to be taken (i.e. maximum of 6 supplements).

## References

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