The Impact of Therapeutic Nutritional Awareness on Improving Chronic Disease Management among Young Adults

Saleh Mohammed Almasaud[1], Mohammed Nasser Alqahtani[2], Sultan Abdulsalam Altuwaijri[3], Bandar Hamad Albekiri[4]

[1,2,3,4]Clinical Nutrition Department
[1,2,3,4]Security Forces Hospital, Riyadh, Saudi Arabia.

Abstract:
This study will be conducted to explore the effect of healthy nutrition awareness in improving management of chronic diseases among young adults (18-35 years old). Methods: The method used in this study was quantitative descriptive research with a cross sectional design by performing using questionnaires to 150 samples that was taking by convenience sampling. The questionnaire consisted of two main parts: demographic characteristics (age, sex and educational level) along with three axes, each consisted of five items rated using a 5-point Likert-scale. These axes were: knowledge of Ainmedi-Diet, attitudes towards its use and perception of effectiveness in the control of chronic diseases. Participants had moderate to high knowledge (mean = 3.83), strong positive attitudes (mean = 4.04) and moderate to high perception of effectiveness (mean = 3.82). Clear positive correlations were obtained between all three axes, indicating that attitude correlates significantly with perception of effectiveness (r = 0.61) and that all correlation levels existed at the p <.05 level. This indicates that better nutrition knowledge might promote a good attitude, and then the belief on effectiveness of nutritional therapy upon slowing progress of disease and lowering medication use. The results highlight the need to incorporate education about nutritional therapy into chronic disease management programs in childhood, particularly in developing countries with a high prevalence of obesity, diabetes and hypertension. The study suggests the need to implement young people tailored educational curricula that are alongside family and societal supportive measures as well longitudinal studies aiming at evaluating behavior modification and the actual clinical outcome.

Keywords: Therapeutic nutrition awareness – management of chronic diseases – young adults – therapeutic nutrition – nutritional knowledge – attitudes – perceived effectiveness.

INTRODUCTION

The increase in the rates of chronic diseases in young adults is a significant problem in the global population, and non-communicable disorders like diabetes, hypertension, obesity, and inflammatory bowel disease are becoming widespread in the late teenage to early twenties age group. In most areas, such as low- and middle-income nations such as African and Middle Eastern ones, in the temporal trends, there is an increase in the prevalence of overweight, obesity, and risks of developing chronic diseases in adolescents and youthful adults due to urbanization, dietary habits, increased sedentary lifestyles, and limited access to preventive care. In their ten-year review study conducted at a tertiary institution in Nigeria, Oluwasanu et al. (2023) recorded a continuum of rising incidences of these risk factors and the necessity to implement early intervention measures by utilizing the demographic characteristics of this target population to reduce long-term morbidity rates and expenditure on health-related services.

The use of self-management is a key element of successful chronic disease management in young adults that makes these individuals self-directed and take active roles in managing the disease by acquiring knowledge, behavioral change, and adherence to the therapeutic regimen. Skills involved in self-management include symptom monitoring, medication and lifestyle changes, including therapeutic nutrition, and coping with the psychosocial effects. Nevertheless, young adults may have some specific obstacles on their way to the adult care, such as health literacy, life issues (study, work, self-sufficiency) are competing, and self-efficacy is not

properly developed yet, and it may become a barrier to the effective disease control. The systematic review of the effectiveness of self-management programs developed specially, with a particular focus on adolescents with chronic illnesses, by Gauci et al. (2021) demonstrated that even though self-management programs have a potential, their effectiveness remains under-researched in the context of face-to-face interventions provided especially to adolescents (1019 years old), and more strong, age-appropriate interventions are necessary to continue until the time of young adulthood.

Based on this, therapeutic patient education (TPE) has become a major evidence-based approach in improving self-management. Correia et al. (2023) conducted a systematic review, meta-analyses of randomized controlled trials, which showed that TPE interventions have a significant beneficial impact on biological outcomes (standardized mean difference [SMD] = 0.48), treatment adherence (SMD = 0.73), knowledge (SMD = 1.22), self-efficacy (SMD = 0.43) and psychological health (SMD = -0.41) in different chronic diseases. These advantages did not differ based on the delivery format (individual, group, or electronic) or the type of the provider, which emphasizes the flexibility of TPE and the possibility of its widespread use. In the same way, Catarino et al. (2021) scoped interventions that promote self-management in children and teenagers, finding several educational and supportive techniques that help achieve autonomy in the management of chronic diseases, but there are gaps in long-term outcomes and applicability to young adults.

In this case, self-management interventions are especially applicable in the case of young adults (18-30 years old) with the conditions that demand over-a-life management, i.e. type 1 diabetes, sickle cell disease, and inflammatory bowel disease. Synthesizing evidence in a scoping review, Almabadi et al. (2025) concentrated on interventions targeting these diseases in this age group and highlighted such important concepts as skills development, peer support, and the use of technologies to help children become more independent and ready to transition. They suggest that developmental needs can be addressed using tailored programs but that the variability in the design of interventions and outcome measurement requires additional standardization.

The adherence to treatment has remained a crucial issue in the management of chronic diseases that directly affect the disease progression, complications and quality of life. Patel et al. (2025) covered this question in detail, describing both deliberate and inadvertent non-adherence as a result of poor education, risk underestimation, challenging regimens, adverse effects, economic inequality, and psychological distress. This results in worse clinical outcomes, increased hospitalization, increased utilization of health care, and huge economic consequences in poor compliances. Some of the approaches to improvement are patient-centered education, shared decision-making, simplified regimens, digital prompts, and the consideration of psychosocial factors, which are closely linked to nutritional awareness efforts.

The development of therapeutic nutritional awareness in self-management systems has a special future in the case of the young adults because many chronic illnesses are rooted in diet. Nutritional education has the potential to increase the knowledge of disease-specific diets (e.g., low-glycemic to control diabetes, low-sodium to control hypertension), positively influence the attitudes toward sustainable changes, and increase the perceived effectiveness of lifestyle interventions. Although self management and education are increasingly being studied, and the role of therapeutic nutritional awareness in the management of chronic diseases has been in the spotlight of research, there is scanty research in this group where the intersection of cultural dietary habits, economic factors and lack of sufficient health resources and increased burdens of chronic disease are involved in the management of chronic diseases.

The research is aimed at filling this gap by exploring how therapeutic nutritional awareness can enhance chronic disease management in young adults (1835 years old). The main goals include: (1) to determine the knowledge, attitudes, and perceived effectiveness levels related to the therapeutic nutrition concerning chronic diseases, (2) determining the relationships between these dimensions, and (3) to determine the role of demographic factors in the level of awareness. Through the use of the cross-sectional survey, consisting of 150 participants, the research will be able to offer empirical data concerning the role of nutritional literacy in self-management practices.

The significance of the study is that it could be used to implement specific resources-based interventions. To increase the therapeutic nutritional awareness would enable young adults to establish preventive behaviors at an early stage, slow down the disease progression, minimize the use of pharmacological treatment, and enhance the overall health condition. In line with the global recommendations to implement youth-focused chronic care, as reflected on transition readiness interventions by Takeuchi et al. (2022), in their narrative review, and the health-awareness programs on at-risk youth adults by Tsai et al. (2021), this study adds to the evidence-based interventions that bridge the knowledge gaps, enhance the adherence, and facilitate the holistic management. Eventually, these initiatives would help to reduce the growing epidemics of chronic diseases in the youth population, promoting healthier adultization, and reducing the long-term social and economic burden.

LITERATURE REVIEW

Indeed, the chronic disease management literature in the young adults is growing in its focus on the interaction between nutritional awareness, self-management skills, behavioral factors, and therapeutic education as the key elements to prevent, adhere, and achieve better results. The number of chronic non-communicable diseases (NCDs) such as diabetes, hypertension, obesity, and others is increasing rapidly in adolescents and young adults, especially in low- and middle-income environments. Oluwasanu et al. (2023) presented a retrospective study design of 10 years in a tertiary Nigeria institution, which reported time-related changes of overweight (prevalence as high as 20.2% in females) and obesity (10.4% in females), combined with the presence of underweight risks and the indicators of chronic diseases of a higher level (high blood pressure and dyslipidemia). These patterns evidenced the two-fold burden of the malnutrition risks and the risk of NCD in the populations under transition because of urbanization, dietary Westernization, and sedentary trends that necessitate early and youth-centered preventive measures through focus on lifestyle changes such as therapeutic nutrition.

The inclusion of nutritional interventions is one of the foundations of evidenced-based chronic disease management, which provides adjustable mechanisms to reduce progression and improve patient outcomes. Gafiyatullina and Binda (2024) examined the nutritional approaches in chronic diseases with a focus on evidence-based dieting strategies, including plant-based and low-glycemic, and nutrient-dense diets, to enhance metabolism, inflammation reduction, and sustainable health of patients with diabetes, cardiovascular diseases, and obesity. They use their analysis based on clinical data to conclude that nutrition is a cost effective intervention that can be used as a supplement to pharmacological intervention and is especially important among young adults who can embrace sustainable lifestyles in their early years in order to avoid complications. This is consistent with the wider demands of the incorporation of nutrition into the holistic care where the understanding of therapeutic diet has a direct impact on the disease courses.

Health literacy and nutrition-specific knowledge play a central role here, particularly the transitions in development. In a cross-sectional study, Zhong et al. (2020) compared youth with chronic kidney disease or hypertension, and the results indicated that nutrition knowledge, overall health literacy, and readiness to healthcare transition (pediatric to adult care) have a positive correlation. Greater nutrition knowledge associated with improved self-management abilities and belief in own self-care, indicating that there might be a gap between transitional preparedness between young patients and that particular educational interventions could be applied. The findings are also especially relevant to young adults who frequently experience disjointed care systems and need more literacy to effectively work with the needs of chronic conditions.

The emergence of self-management is one of the primary empowerment frameworks in this case, and it is applied to young adults with chronic illnesses. Systematic review of self-management programs in adolescents (aged 1019) by Gauci et al. (2021) provided moderate evidence of program benefit in knowledge acquisition and specific behavioral changes in health but found no greater benefits of face-to-face programs and little evidence of other widely applicable programs. Catarino et al. (2021) further elaborated with a scoping review of such self-management promotion in children and teenagers, in which various educational and supportive programs were found to promote autonomy, symptom tracking, and adherence to lifestyle. Among young adults in particular (18 30 years), Almabadi et al. (2025) scoped type 1 diabetes, sickle cell disease and

inflammatory bowel disease intervention and emphasize skills, use of technology and peer support as effective factors in achieving independence and successful transition to care.

The effectiveness of therapeutic patient education (TPE) has shown great strength in chronic diseases. Correia et al. (2023) provided a meta-analysis and systematic review of randomized controlled trials and found a significant improvement in the biological outcome (SMD = 0.48), treatment adherence (SMD = 0.73), knowledge (SMD = 1.22), self-efficacy (SMD = 0.43), and psychological health (SMD = -0.41). Such advantages existed both among formats (individual, group, electronic) and providers and substantiated TPE as adaptable and able to bring nutritional elements into wider education programs. Takeuchi et al. (2022) described randomized trials with transition readiness scales and presented a narrative review of the literature that found an efficacious intervention with studies including education and skills training to prepare adolescents and young adults to transition to adult-oriented care, and they stated that structured programs are also beneficial, as they offer nutritional and self-management skills.

Noncompliance remains one of the biggest obstacles to the best management. Patel et al. (2025) described the complex nature of non-adherence to chronic conditions, dividing it into intentional (e.g., perceived inefficacy or side effects) and unintentional (e.g., forgetfulness, regimen complexity) factors, and negative outcomes, more hospital admissions, and economic burden. It is recommended to use strategies like patient-centered education, simplified plans, digital tools, and psychosocial support, and the behavior of nutritional adherence is especially susceptible to knowledge gaps and behavioral obstacles.

There is a strong impact of behavior on the course of a chronic disease, but gaps in practice-knowledge are still observed. Rahelić et al. (2024) have examined modifiable risks such as poor diet, inactivity, smoking, stress, and poor sleep, which are associated with high morbidity in cardiovascular diseases, diabetes, and cancers. They highlighted the discrepancies between the knowledge and practice, by promoting the use of public health programs and policy changes to bridge these gaps by use of specific behavioral change interventions.

Psychosocial aspects also make it harder to manage. Akif et al. (2024) offered a summary of the two-way influence of chronic diseases on mental health and suggested that integrated care initiatives should be established based on the treatment of depression, anxiety, and stigma to enhance adherence and quality of life. A survey of adolescents and young adults with chronic illnesses in a research hospital (Allen et al., 2022) revealed that their needs are not met in psychosocial support, self-management education, and preparation of transitions, and participants desired to have access to lifestyle information, including nutrition, to support their daily coping.
The article by Valanju et al. (2022) embodies the youth opinions on the prevention of chronic diseases, and they are in favor of empowering and youth-focused approaches oriented to changing the lifestyle and community participation to proactive behaviors. Using the transtheoretical model as a construct to the hypertensive women, Mohebbi et al. (2021) found that nutritional knowledge, illness perceptions, and self-efficacy predictor the dietary adherence, which is generalizable to younger populations where stage-based interventions might facilitate the transition to life-long therapeutic nutrition habits. Tsai et al. (2021) proved the advantages of health-awareness-strengthening interventions in young adults in the at-risk mental condition, which introduced the idea of the role of lifestyle education in holistic health.

All these literature collate to support the nutritional awareness of therapeutic values as part of self management, adherence and prevention in young adults with chronic diseases. Although there is evidence of the effectiveness of educational interventions, the gaps in culturally adapted interventions among youth especially on a geographical area (e.g., regions) show how a localized study is essential to translate knowledge into practice and eventually decrease the burden of NCDs by empowering and educating them.

METHODOLOGY

Research Design

The research design utilized in this study was quantitative and descriptive research in order to examine how therapeutic nutritional awareness can enhance the management of chronic diseases among young adults. A cross section survey design was employed to gather information at only one point in time enabling the analysis of the interactions between variables without controlling them. The design was selected because it is effective in collecting much information in a diverse sample of participants and exploring attitudes, knowledge and behaviors regarding therapeutic nutrition and disease management. The study concentrated on self-reported responses and the results given to offer information on the relationship between the level of awareness and management practices although a generalizability of the results to the target population.

Participants

The research population was a group of young adults between the age of 18 and 35 years old, specifically those with chronic diseases like diabetes, high blood pressure or obesity or at risk of the mentioned diseases. Participants were chosen using a convenience sampling method, which guaranteed ease and practicality of data collection. The sample size was established at 150 people, which is obtained by using a confidence level of 95 per cent and a margin of error of 5 per cent, taking the variability of the population to be 50. Online platforms, community health centers, and educational institutions were used to recruit the participants to have a representative mix of demographics. The inclusion criteria were that the participants had to be young adults who identified themselves as having awareness or experience with managing a chronic disease and the exclusion criterion was those below 18 years old or those without basic literacy to fill out the questionnaire.

Instrument

A structured questionnaire that was designed in this study was used to collect the data in two main sections including demographic information and thematic axes. The initial part comprised three demographic variables, age, gender, and education level, to ensure that they have contextual backgrounds about the participants. The second part consisted of three axes, five statements on each that aimed at measuring various dimensions of therapeutic nutritional awareness and its association with chronic disease management. The axes were based on the knowledge of therapeutic nutrition, attitude toward its use in everyday life, and perceived effectiveness of its use in disease control with the statements being phrased through a five-point Likert scale (strongly disagree to strongly agree) to provide a measure of the responses. A pilot test of the questionnaire was done on 20 participants not in the final sample and the Cronbachs alpha reliability coefficient of 0.85 was found, which is high and shows that the questionnaire is internally consistent. The items were based on the found literature on nutritional awareness and chronic disease scales based on which content validity was ensured.

Procedure

The data collection activity commenced by securing the ethical approval form of the concerned institutional review board in order to have anonymity and informed consent of the participants. The questionnaire was sent through Google Forms over a four-week period in the early part of 2026 in selected locations electronically. The participants were given a short description of the purpose of the study and guaranteed anonymity, and the time required to complete the research was estimated to be 10-15 minutes. Online respondents also received reminders to ensure that return rates were high and their response rates were about 90. Data were kept in a password-secured database and all the responses were kept there to ensure the integrity and privacy of data during the research.

Data Analysis

Data collected were analyzed by applying descriptive and inferential statistics on SPSS software version 27. Demographic profile and responses in the questionnaire axes were summarized using descriptive statistics such as frequencies, means, and standard deviations. Inferential statistics, including correlation coefficients, chi-square tests, were used to test the relationships between the levels of therapeutic nutritional awareness and the results of achieving chronic disease management. Normality and homogeneity were assumed and non-

parametric alternatives were used where it was essential. The interpretation of the results happened at a significance of $p < 0.05$ which gave an evidence based conclusion on the objectives of the research.

RESULTS

Demographic Characteristics of the Participants

Table 1: Demographic Profile of the Study Sample (N = 150)

Variable	Category	Frequency (n)	Percentage (%)
Age	18–24 years	78	52.0
	25–29 years	45	30.0
	30–35 years	27	18.0
Gender	Male	62	41.3
	Female	88	58.7
Education Level	High school or below	18	12.0
	Bachelor's degree	96	64.0
	Postgraduate or higher	36	24.0

The sample was predominantly composed of females (58.7%) and individuals in the younger age bracket (18–24 years, 52.0%). The majority held a bachelor's degree (64.0%), reflecting a relatively educated group of young adults in which may influence higher baseline nutritional awareness levels compared to less educated populations.

Knowledge of Therapeutic Nutrition

Table 2: Mean Scores and Standard Deviations for Axis 1 – Knowledge of Therapeutic Nutrition (N = 150)

Statement Number	Statement (abbreviated)	Mean ± SD	Interpretation (out of 5)
K1	I understand how specific nutrients affect chronic diseases like diabetes	3.82 ± 0.91	Moderate-High
K2	I know the recommended dietary guidelines for hypertension management	3.65 ± 1.02	Moderate
K3	I can identify therapeutic foods that help control obesity	3.91 ± 0.85	High
K4	I am aware of the role of low-glycemic foods in blood sugar control	3.74 ± 0.98	Moderate-High
K5	I know the risks of high-sodium diets for heart disease patients	4.05 ± 0.78	High
Overall Axis 1 Mean	**Therapeutic Nutrition Knowledge**	**3.83 ± 0.71**	Moderate-High

Participants demonstrated moderate-to-high knowledge of therapeutic nutrition (overall mean = 3.83), with strongest awareness regarding high-sodium risks and obesity-related foods. Lower scores on hypertension guidelines suggest targeted educational needs in this area among young adults.

Attitudes toward Therapeutic Nutrition Application

Table 3: Mean Scores and Standard Deviations for Axis 2 – Attitudes toward Therapeutic Nutrition (N = 150)

Statement Number	Statement (abbreviated)	Mean ± SD	Interpretation (out of 5)
A1	I believe therapeutic nutrition can significantly improve chronic disease outcomes	4.12 ± 0.82	High
A2	Applying nutritional therapy is difficult in daily life due to cost/time	3.45 ± 1.15	Moderate
A3	I am willing to change my diet to better manage or prevent chronic conditions	4.28 ± 0.76	High
A4	Therapeutic diets are effective only if followed strictly	3.98 ± 0.89	High
A5	Family/social support is essential for successful nutritional management	4.35 ± 0.70	Very High
Overall Axis 2 Mean	**Attitudes toward Application**	**4.04 ± 0.68**	High

Attitudes were generally positive and high (overall mean = 4.04), indicating strong belief in the value of therapeutic nutrition and willingness to adopt changes. Perceived barriers (e.g., cost/time) received the lowest score, highlighting potential challenges in real-world implementation despite favorable attitudes.

Perceived Effectiveness in Chronic Disease Management

Table 4: Mean Scores and Standard Deviations for Axis 3 – Perceived Effectiveness of Therapeutic Nutrition in Chronic Disease Management (N = 150)

Statement Number	Statement (abbreviated)	Mean ± SD	Interpretation (out of 5)
E1	Therapeutic nutrition has helped/improved my (or known cases) chronic condition	3.68 ± 1.05	Moderate
E2	Consistent application of therapeutic diets reduces medication needs	3.92 ± 0.94	High
E3	Nutritional awareness prevents progression of chronic diseases	4.18 ± 0.80	High
E4	I have seen positive health changes from following therapeutic advice	3.75 ± 0.99	Moderate-High
E5	Therapeutic nutrition is more effective than medication alone	3.55 ± 1.12	Moderate
Overall Axis 3 Mean	**Perceived Effectiveness**	**3.82 ± 0.78**	Moderate-High

Perceived effectiveness was moderate-to-high (overall mean = 3.82), with strongest agreement on prevention of disease progression. Lower scores for replacing medication suggest participants view nutrition as complementary rather than alternative to pharmacological treatment.

Relationships between Axes

Table 5: Pearson Correlation Coefficients between the Three Axes (N = 150)

Variable	Axis 1 (Knowledge)	Axis 2 (Attitudes)	Axis 3 (Perceived Effectiveness)
Axis 1 – Knowledge	1.00	0.52**	0.48**
Axis 2 – Attitudes	0.52**	1.00	0.61**
Axis 3 – Perceived Effectiveness	0.48**	0.61**	1.00

Significant positive correlations were found among all axes, with the strongest relationship between attitudes and perceived effectiveness (r = 0.61). This suggests that higher knowledge contributes to more positive attitudes, which in turn enhance perceived benefits of therapeutic nutrition in managing chronic diseases among young adults.

DISCUSSION

The results of the current research highlight the great importance of the therapeutic nutritional awareness in the improvement of the chronic disease management among young adults. The findings of the study based on a sample of 150 participants aged 18-35 showed moderate-to-high levels of knowledge (mean = 3.83), high positive attitudes (mean = 4.04), and moderate-to-high perceived effectiveness (mean = 3.82) on the subject of therapeutic nutrition. Good positive relationships were established between these axes, indicating that better knowledge leads to positive attitudes, which consequently enhance the perceptions about nutritional interventions as effective measures to control the disease. These findings are consistent with the evidence provided by Gafiyatullina and Binda (2024) who noted the importance of using evidence-based nutritional interventions in the management of chronic diseases as a way of improving the patient outcomes. In their overview of multiple studies, they emphasized that a number of dietary practices, including low-sodium and low-glycemic diets, can help reduce risks linked to diseases including high blood pressure and obesity, as seen by the high level of awareness of sodium risks and foods that cause obesity among our respondents. This intersection means that young adults of our study can be subject to the same interventions, which can result in increased adherence and a decrease in the progression of the disease.

Further to this, the demographic profile of the study which is led by educated females within the age group of 18-24 years gives a background on how the knowledge levels can be interpreted. Zhong et al. (2020) performed a cross-sectional study among young people with chronic kidney disease or hypertension discovering that nutrition knowledge was significantly related to health literacy and readiness to healthcare transitions. Better self-management was associated with greater nutrition knowledge in their adolescent and young adult sample which is also reflected in our Axis 1 data which indicated that participants had strong knowledge of nutrient-disease relationships. Nevertheless, our results also indicated some gaps including moderate awareness of hypertension recommendations, which Zhong et al. also explained by the lack of educational resources at transitional care stages. This implies that although our young adults respondents have a baseline-awareness, specific interventions may be applied to eliminate them, and improve general chronic disease management. Moreover, the optimistic attitudes presented in our research are aligned with Allen et al. (2022) who interviewed adolescents and young adults with chronic diseases and found that they had unmet needs in self-management education. In the survey on quality improvement that they conducted, they found that people wanted to have more readily available information on lifestyle factors, such as nutrition, to close otherwise existing gaps in daily application. This is supported by the fact that the willingness to change dietary patterns in our sample is high (mean = 4.28) signifying that one way of overcoming such barriers such as cost and time as observed in Axis 2 is through the leveraging of attitudes.

The perceived efficacy of therapeutic nutrition in our study in terms of prevention points to its capacity to prevent the development of chronic illnesses among young adults. Valanju et al. (2022) discussed the views of youth regarding the prevention of chronic diseases and suggested the application of youth-centered programs that include nutritional education to promote the development of long-term behavioral changes. Their discusses in The Lancet focused on the mindset in the youths who consider lifestyle changes such as diet as empowering methods of preventing diseases, similar to our participants where they agreed on the response that nutrition plays a major role in disease prevention (mean = 4.18). This synergy implies that the growing therapeutic nutritional awareness may lead young adults to engage in some proactive action, which will make them less dependent on the medication itself, and the perception related to such an action scored moderately well in our research (mean = 3.55). Nonetheless, mental health factors need to be incorporated because Akif et al. (2024) have identified the mutual influence of chronic illnesses on mental health. Their summary suggested holistic care interventions that involve psychological impediments to adherence, including anxiety or depression, which could affect nutritional practices. In our situation, there is a close

relationship between attitudes and perceived effectiveness (r = 0.61), which means that mental health support might enhance these gains especially among young adults who experience chronic conditions that influence emotional well-being.

Theoretical models are also applied to further enrich the discussion of our results. Mohebbi et al. (2021) used the transtheoretical model to make predictions of the nutritional knowledge of hypertensive women and the effect of dietary adherence, stating the perceptions towards illness and self-efficacy as the most important factors. In spite of their targeting middle-aged women, the model stages of change are applicable to our age group, in which high levels of family and social support (mean = 4.35) would help them to move on to action after contemplation in embracing therapeutic diets. It is specifically relevant in the light of average scores on the practical barriers in our research, which indicates that interventions based on such models can be effective in terms of increasing adherence. On the same note, Rahelić et al. (2024) explored the behavioral determinants of chronic diseases, and they noted that the gaps in the knowledge base of practices are negative barriers to effective management. They also analyzed in Healthcare that there were inconsistencies between awareness and implementation, which also appeared in our results where there was a moderate correlation between knowledge and perceived effectiveness (r = 0.48). With education helping to eliminate these gaps, as suggested by Rahelić et al., young adults may be able to obtain more desirable results including lower medication requirements (mean = 3.92 in our Axis 3).

These insights provide implications to the clinical practice and policy. Healthcare providers in the areas should lay emphasis on adopting therapeutic nutritional education in the routine care of the young adults with chronic conditions based on the evidence presented by Gafiyatullina and Binda (2024). This may include multidisciplinary teams to provide workshops on low-glycemic and anti-inflammatory diets, as per the educational levels of our sample. To encourage awareness among the youth via online means, policymakers may use youth-specific campaigns, as Valanju et al. (2022) did, due to the online recruitment in our study. Alongside, the introduction of mental health elements, according to Akif et al. (2024), would reduce the influence of mental health, which guarantees a holistic approach. In the case of educators and community health centers, social support network development is in line with the discovery of Allen et al. (2022) regarding unmet needs, which might enhance attitudes and compliance.

Although one has these strengths, there are some weaknesses that have to be recognized. The convenience of sampling approach, and the cross-sectional design do not allow the generalization of the results to the entire population outside of urban youth because this study specifically targeted particular chronic conditions, and thus may not represent rural or less educated populations (Zhong et al., 2020). The data can be biased because it is self-reported, but the reliability is high (Cronbachs alpha = 0.85), which partially eliminates this vulnerability. The future study would utilize longitudinal designs to observe the real change in behaviors, as suggested by Mohebbi et al. (2021), transtheoretical model, or comparative analyses of different age groups to fill the knowledge gaps identified by Rahelić et al. (2024).

CONCLUSION

To sum up, this paper reveals the critical importance of therapeutic nutritional awareness in the context of better controlling chronic diseases in young adults as indicated by the moderate-high magnitude of the knowledge (mean = 3.83), strongly positive attitudes (mean = 4.04), and perceived effectiveness (mean = 3.82) levels of the 150 participants. The positive correlations between these axes are significantly high, especially the one between attitudes and perceived effectiveness (r = 0.61), which illustrates that an increased level of awareness is not only associated with an optimistic attitude towards nutritional interventions but also turns into a belief that nutritional interventions have the capacity to prevent disease progression, medication dependency, and overall better health results. These findings can be compared with the overall evidence on the importance of nutrition as a pillar of preventive medicine and self-management in chronic diseases such as diabetes, hypertension, and obesity.

The results cement the fact that the young adults particularly those who are more educated as observed in the sample have a good background on the understanding of the nutrient disease interactions including the risk of

high sodium food intakes and the advantages of low glycemic foods. Nonetheless, the knowledge-practice gaps in some domains such as hypertension management guidelines suggest the possibility of developing focused education to address such knowledge gap. The existing positive attitudes, such as a great desire to change their diets and acknowledge the role of family/social support, indicate that the young adults are open to interventions that consider real-world barriers, such as cost and time. The perceived efficacy, despite moderate-to-high, considers the use of therapeutic nutrition as a complement to, but not a complete replacement by, medication, which indicates the presence of a balanced and realistic attitude that may facilitate the maintenance of adherence.

The implications of these discoveries on the population health and such settings in the Middle East and North Africa (MENA) region are far-reaching where dual burden of malnutrition and increased non-communicable diseases remain an issue. As more youths become obese, diabetic, and suffer cardiovascular diseases as a result of changing dietary habits to high-energy, processed foods, improving therapeutic nutrition awareness may become a cost-powerful, empowering intervention. By incorporating this education into regular healthcare, educational programs in schools, and community awareness, shaped to the preferences of young adults in seeking information online and through peer groups, such education might lead to healthier lifestyles, reduce the progression of diseases, and decrease the overall healthcare burden. This would be enhanced by holistic interventions that have mental health care since chronic conditions are usually intertwined with psychological issues that would promote resilience and self-efficacy.

Finally, the study can be added to the increasing body of literature that nutritional literacy is vital in youth-based chronic disease prevention and management. The policymakers, healthcare professionals, and educators can enable young adults to proactively manage their health by prioritizing evidence-based nutritional interventions. These findings would be reinforced by longitudinal studies to measure real changes in behavior and clinical outcomes or comparative ones across rural-urban lines or different socioeconomic classes to direct scalable programs. The importance of closing the gap between awareness and sustained action cannot be underestimated to help eliminate the norms of chronic diseases and make future generations of the region and others healthier and more motivated to work.

REFERENCES:

1. Akif, A., Qusar, M. S., & Islam, M. R. (2024). The impact of chronic diseases on mental health: an overview and recommendations for care programs. Current psychiatry reports, 26(7), 394-404.
2. Allen, T., Reda, S., Martin, S., Long, P., Franklin, A., Bedoya, S. Z., ... & Wolters, P. L. (2022). The needs of adolescents and young adults with chronic illness: results of a quality improvement survey. Children, 9(4), 500.
3. Almabadi, R., Doi, L., Chandler, C., & Alamri, H. (2025). Self-Management Interventions in Young Adults (18–30 Years) With Type 1 Diabetes, Sickle Cell Disease, and Inflammatory Bowel Disease: A Scoping Review. Chronic Diseases and Translational Medicine.
4. Catarino, M., Charepe, Z., & Festas, C. (2021, November). Promotion of self-management of chronic disease in children and teenagers: scoping review. In Healthcare (Vol. 9, No. 12, p. 1642). MDPI.
5. Correia, J. C., Waqas, A., Assal, J. P., Davies, M. J., Somers, F., Golay, A., & Pataky, Z. (2023). Effectiveness of therapeutic patient education interventions for chronic diseases: a systematic review and meta-analyses of randomized controlled trials. Frontiers in Medicine, 9, 996528.
6. Gafiyatullina, R., & Binda, J. (2024). Nutritional Interventions in Chronic Disease Management: Evidence-Based Approaches for Improved Patient Outcomes. Scientific Journal of Bielsko-Biala School of Finance and Law, 28(4).
7. Gauci, J., Bloomfield, J., Lawn, S., Towns, S., & Steinbeck, K. (2021). Effectiveness of self-management programmes for adolescents with a chronic illness: A systematic review. Journal of Advanced Nursing, 77(9), 3585-3599.
8. Mohebbi, B., Tafaghodi, B., Sadeghi, R., Tol, A., & Yekanenejad, M. S. (2021). Factors predicting nutritional knowledge, illness perceptions, and dietary adherence among hypertensive middle-aged women: Application of transtheoretical model. Journal of Education and Health Promotion, 10, 212.

9. Oluwasanu, A. O., Akinyemi, J. O., Oluwasanu, M. M., Oseghe, O. B., Oladoyinbo, O. L., Bello, J., ... & Akingbola, O. (2023). Temporal trends in overweight and obesity and chronic disease risks among adolescents and young adults: A ten-year review at a tertiary institution in Nigeria. Plos one, 18(4), e0283210.
10. Patel, S., Huang, M., & Miliara, S. (2025). Understanding treatment adherence in chronic diseases: challenges, consequences, and strategies for improvement. Journal of Clinical Medicine, 14(17), 6034.
11. Rahelić, V., Perković, T., Romić, L., Perković, P., Klobučar, S., Pavić, E., & Rahelić, D. (2024, December). The role of behavioral factors on chronic diseases—Practice and knowledge gaps. In Healthcare (Vol. 12, No. 24, p. 2520). MDPI.
12. Takeuchi, J., Yanagimoto, Y., Sato, Y., Ochiai, R., Moriichi, A., Ishizaki, Y., & Nakayama, T. (2022). Efficacious interventions for improving the transition readiness of adolescents and young adult patients with chronic illness: A narrative review of randomized control trials assessed with the transition readiness assessment questionnaire. Frontiers in Pediatrics, 10, 983367.
13. Tsai, C. L., Lin, Y. W., Hsu, H. C., Lou, M. L., Lane, H. Y., Tu, C. H., & Ma, W. F. (2021). Effects of the health-awareness-strengthening lifestyle program in a randomized trial of young adults with an at-risk mental state. International journal of environmental research and public health, 18(4), 1959.
14. Valanju, R., Barani, M., Mautner, D., Al Hadaya, I., Cross, A., Gunawardana, M., ... & Partridge, S. R. (2022). Youth perspective on chronic disease prevention. The Lancet Child & Adolescent Health, 6(7), 456-458.
15. Zhong, Y., Patel, N., Ferris, M., & Rak, E. (2020). Health literacy, nutrition knowledge, and health care transition readiness in youth with chronic kidney disease or hypertension: a cross-sectional study. Journal of Child Health Care, 24(2), 246-259.