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A study to assess the prediabetic risk among adults

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ABSTRACT

Prediabetes is a high-risk state for diabetes that is defined by glycaemic variables that are higher than normal but lower than diabetes thresholds. 5–10% of people per year with prediabetes will progress to diabetes, with the same proportion converting back to normal glycaemia. The prevalence of prediabetes is increasing worldwide, and experts have projected that more than 470 million people will have prediabetes by 2030. Prediabetes is associated with the simultaneous presence of insulin resistance and β-cell dysfunction abnormalities that start before glucose changes are detectable. Hence the present study to assess the risk factors of pre-diabetes risk among the adults in SMCH and to associate the prediabetic risk with demographic variables among adults. Quasi-experimental design was employed with 100 adults who met the inclusion criteria were selected by non-probability purposive sampling technique. The researcher collected the demographic variables and assessed the prediabetic risk among adults by using Indian diabetic risk score. The data analysis was done using descriptive and inferential statistics. The result shows that Out of 100 samples, 15(15%) is at low risk, 55(55%) is at moderate risk and 30(30%) is at high risk among adults. The mean and standard deviation of this study are 54.6 and 16.6, respectively, for adults. The association between the prediabetes risk and the demographic variable is statistically significant. The study reveals that the adults have a moderate risk for prediabetes which is analysed using Indian diabetic risk score.

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INTRODUCTION

Prediabetes is a greater risk state for diabetes that is defined by glycaemic variables that are more than normal but lower than diabetes thresholds. 5-10% of people per year with prediabetes will prone to get diabetes with the same proportion converting back to normal glycaemia (Parascandola, 2017).

Nurses constitute half of the health workforce; their health could be at risk for chronic diseases, such as prediabetes and diabetes, as well as other occupational hazards. Such as nurses stress. Health promotion, possibly workplace-based, presents opportunities to safeguard the health of nurses. Using a prediabetes risk assessment tool for screening the nurses is important to ensure that they remain physically and mentally fit to perform their work and to comply with various health and safety regulations (Stapleton, 2015).

Trends in 2017 also indicate that the prevalence of diabetes in the UAE is rising at a faster rate than both in the MENA region and the rest of the world.

Increase in economic growth, lifestyles modification, and lack of nutritional diets characteristic of the UAE are all risk factors, leading to the number of people with diabetes being expected to double to 2.2 million by 2040. However, a higher population and a greater understanding of the condition in communities have also contributed to the increase in patients diagnosed with diabetes (Simon, 2017).

The prevalence of prediabetes is increasing worldwide, and experts have estimated that more than 470 million people will have prediabetes by 2030. Prediabetes is associated with the simultaneous presence of insulin resistance, and cell dysfunction abnormalities that start before lifestyle risk factors for prediabetes include overweight and decreased physical activities.awareness and risk identification of individuals with prediabetes may help physicians understanding effective interventions that may help decrease the percentage of patients in their panels in who met diabetes develops. If not treated, 37% of the individuals with prediabetes may have diabetes in 4 years. DM affects around 8.3% of the adult population worldwide, and the total number of cases is estimated to rise from 371 million in 2012 to 552 million in 2030 (Najeera, 2014).

The study investigates to what extent prediabetes status is common among certain occupational risk groups, such as nurses, technician, teaching and non-teaching workers. It is testing the hypothesis that if we are practising an unhealthy lifestyle, this would be a risk factor for developing prediabetes status (Prasad *et al.*, 2019).

Diabetes often leads to devastating physiological complications which develop as a result of chronic hyperglycaemia. These complications are typically broken down into micro and macro vascular complications, and they include central and peripheral neuropathy, retinopathy leads to blindness, nephropathy leads to kidney failure, myocardial infraction and stroke as well as erectile dysfunction, lower-extremity amputation and death. Persons with diagnosed diabetes are 3 times more prone to be hospitalized with cardiovascular disease, 12 times more likely to be hospitalized with end-stage renal disease, and 20 times more likely to require non-traumatic lower limb amputation (Raizada *et al.*, 2016).

MATERIALS AND METHODS

The research approach adopted in the study was a quantitative approach by using descriptive research design. After getting formal permission from the principal of Saveetha College of nursing and CEO department in SMCH, the study was conducted at Saveetha Medical College and Hospital with 100 samples. Samples who satisfies the inclusion criteria were selected by using non-probability purposive sampling technique. Sample who do not understand Tamil or English, who are already diagnosed as diabetes mellitus and the employees who were <30years of age group are excluded from the study. The employees who consented for willing to participate were explained about the purpose and benefits about the study. The researcher collected the demographic variables and assessed the prediabetic risk among adults by using Indian diabetic risk scale. The data was tabulated, and analysis was done by using descriptive and inferential statistics.

RESULTS AND DISCUSSION

The current study reveals that out of 100adults22(22%) comes under the age group of 20-30yrs, 63(63%) comes under the age group of 31-40yrs, 9(9%) comes under the age group of 41-50yrs and 6(6%) comes under the age group of >50yrs. Regarding gender 7(7%) belongs to male and 93(93%) belongs to a female. Regarding educational status 20(20%) were completed their higher secondary, 71(71%) were completed their undergraduate, 3(3%) were completed their postgraduate, 6(6%) comes under illiterate.Regarding occupation 0(0%) comes under teaching, 22(22%) comes under non-teaching,54(54%) comes under staff nurse and 24(24%) comes under lab technician. Regarding income 21(21%) comes under below 10000, 48(48%) comes under 10000 – 20000, 30(30%) comes under 20000 -30000 and 1(1%) comes under above 30000. Regarding BMI 10(10%) comes under underweight, 29(29%) comes under normal, 46(46%) comes under overweight, and 15(15%) comes under obese. Regarding diet pattern, 12(12%) belongs to vegetarian, 1(1%) belongs to non-vegetarian, 87(87%) belongs to more intake of non-vegetarian foods.

The current study reveals that out of 100 adults15(15%) is at low risk, 55(55%) is at moderate risk and 30(30%) is at high risk. (Table 1 and Figure 1).

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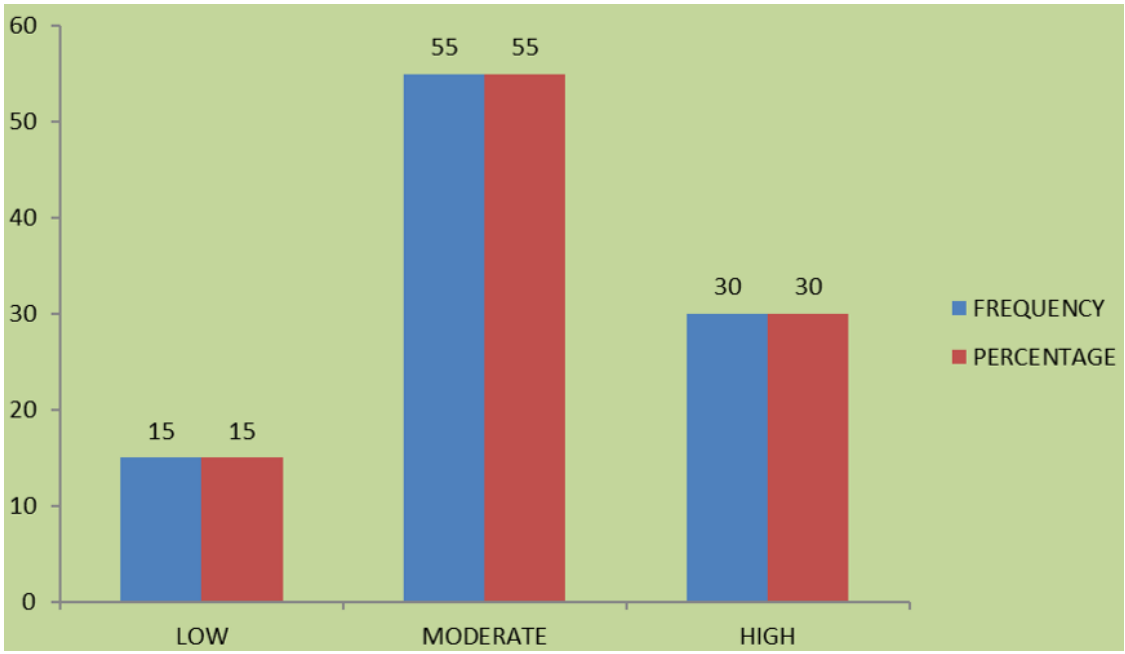
Table 1: Frequency and percentage distribution level of prediabetic risk among adults

Level of risk	Frequency	Percentage
Low	15	15
Moderate	55	55
High	30	30



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The present study findings were supported by Abdullah *et al.* (2019) who reported that out of 646working personnel 78.9% were aged <45 years, 15% were aged 45-54 years, and 5.7% were aged 55-64 years. Regarding gender 82.3% were female and 17.7% were female.44.7% had a BMI of <25 kg/m^2, 42.9% had a BMI of 25-30 kg/m^2, and 12.2% had a BMI of>30 kg/m^2. Regarding diet pattern 81% belongs to vegetarian,19% belongs to non-vegetarian (Abdullah *et al.*, 2019).

The present study findings were supported by (Muthunarayana, 2018) who reported that out of 544 participants above the age of 20 years were studied of which 72.6% were women and 27.4% were men. Here the higher risk of being prediabetic and diabetic was noted above the age of 40 years of age group (Muthunarayana, 2018).

The findings of the present study reveal that out of 100 adults15(15%) is at low risk, 55(55%) is at moderate risk, and 30(30%) is at high risk.

The present study findings were supported by Abdullah *et al.* (2019) who reported that out of 674 samples 42.7%, had low prediabetes risk, 38.4% had moderate prediabetes risk, and 0.5 % had high prediabetes risk.

The present study findings were supported by Lindström *et al.* (2003) who reported that out of 182 samples 92.4% had low prediabetes risk, 64.6% had moderate prediabetic risk, and 25% had high prediabetes risk (Lindström *et al.*, 2003).

The findings of the present study shows that the demographical variables (age, gender, educational status, occupation, income, BMI and diet pattern.) is a statistically significant association with the level of prediabetes risk among working personnel.

The present study findings were supported by Abdullah *et al.* (2019) who reported that the different categorical variables (age, gender, BMI, and diet pattern) were associated with a statistically significant (p<.05) to pre-diabetic risk.

CONCLUSION

This chapter deals with the implication of the study in the field of nursing, limitations, suggestions and recommendations for the research. On the whole, conducting this study was a rich learning experience for the investigator. The result of this study is a statistically significant association with the level of pre-diabetes risk among adults.

REFERENCES

Abdullah, K., Jacob, S., Hussain, H. Y., Salim, N. A. 2019. Prediabetes Risk Assessment among Nurses Recruited in a Dubai Local Government Hospital: A Cross-Sectional Study. *International Journal of Diabetes and Metabolism*, pages 1–6.

Lindström, J., Louheranta, A., Mannelin, M., Rastas, M., Salminen, V., Eriksson, J., Tuomilehto, J. 2003. The Finnish Diabetes Prevention Study (DPS). *Diabetes Care*, 26(12):3230–3236.

Muthunarayana, L. 2018. Prevalence of prediabetes and it's associated risk factors among rural adults in Tamil Nadu. 3:178–184.

Najeera, J. A. 2014. Centres for disease control and prevention. [online]. [Accessed 2014].

Parascandola, J. 2017. Centres for disease control and prevention. [online]. [accessed 2017].

Prasad, D., Yashpal, G., Sameer, A. 2019. Predictors and Outcome of Fragility Hip Fracture A Prospective Study from North India. *Indian Journal of Endocrinology and Metabolism*, 23(3):282–288. accessed.

Raizada, N., Jyotsna, V., Upadhyay, A. 2016. Bone mineral density in young adult women with congenital adrenal hyperplasia. *Indian Journal of Endocrinology and Metabolism*, 20(1):62–66.

Simon, D. 2017. UAE Diabetes trends. [online]. [accessed 2017].

Stapleton, D. H. 2015. Centres for disease control and prevention. [online]. [Accessed 2015].