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# QUALITY OF LIFE AND GLYCAEMIC CONTROL AMONG OLDER POPULATION WITH DIABETES IN THREE DISTRICTS OF PENINSULAR MALAYSIA

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The older population is increasing in numbers worldwide. Most of them have multiple comorbidities including diabetes. The diabetic control in elderly is usually challenging. Their quality of life and socioeconomic condition either in rural or urban area could affect their disease progress. This study aims to measure the diabetic control and its associated factors, including quality of life among the older population with diabetes in three different districts of Malaysia. The patients' health and background details were

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recorded. Validated Malay version of diabetes quality of life questionnaire was used. 485 elderly diabetic patients were recruited based on two proportion formula comprising all clinics in those districts representing urban vs rural area. Data were analyzed using simple and multiple logistic regression for the association. Only 30.5% of the patients have good diabetic control with patients in Kuala Terengganu district achieved better sugar control ( $p < 0.001$ ). However, the only significant diabetic control predictor is the quality of life of the elderly patients (OR = 1.32, CI 1.047 – 1.224). Level of diabetes control in these three districts are poor, concomitant with the poor control of the elderly non-communicable disease profiles. It is essential to embark on holistic approach in dealing with the elderly diabetic management and identify measures to improve quality of life in those with poor glycaemic control in order to have better disease outcome. © (2023), (Malaysian Public Health Physicians Association). All Rights Reserved.

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## References (36)

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- 1 *Population ages 65 and above (% of total population)*. Cited 130 times.  
1. Worldbank.org. (accessed 28 October 2022)  
<https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS>
- 2 Tong, S.F., Low, W.Y., Ng, C.J.  
**Profile of men's health in Malaysia: Problems and challenges**  
  
(2011) *Asian Journal of Andrology*, 13 (4), pp. 526-533. Cited 20 times.  
doi: 10.1038/aja.2010.125  
  
[View at Publisher](#)
- 3 Fekadu, G., Bula, K., Bayisa, G., Turi, E., Tolossa, T., Kasaye, H.K.  
**Challenges and factors associated with poor glycaemic control among type 2 diabetes mellitus patients at nekemte referral hospital, Western Ethiopia**  
  
(2019) *Journal of Multidisciplinary Healthcare*, 12, pp. 963-974. Cited 40 times.  
<https://www.dovepress.com/getfile.php?fileID=54181>  
doi: 10.2147/JMDH.S232691  
  
[View at Publisher](#)
- 4 Leung, E., Wongrakpanich, S., Munshi, M.N.  
**Diabetes management in the elderly**  
  
(2018) *Diabetes Spectrum*, 31 (3), pp. 245-253. Cited 51 times.  
<http://spectrum.diabetesjournals.org/content/31/3/245.full-text.pdf>  
doi: 10.2337/ds18-0033  
  
[View at Publisher](#)
- 5 Yakaryilmaz, FD, Öztürk, ZA.  
Treatment of type 2 diabetes mellitus in the elderly  
(2017) *World J Diabetes*, 8 (6), pp. 278-285. Cited 60 times.  
5

- 6 Aung, W.P., Htet, A.S., Bjertness, E., Stigum, H., Chongsuivatwong, V., Kjøllesdal, M.K.R.  
Urban-rural differences in the prevalence of diabetes mellitus among 25-74 year-old adults of the Yangon Region, Myanmar: Two cross-sectional studies  
(2018) *BMJ Open*, 8 (3), art. no. e020406. Cited 45 times.  
<http://bmjopen.bmj.com.ezlib.iium.edu.my/content/early/by/section>  
doi: 10.1136/bmjopen-2017-020406  
View at Publisher
- 
- 7 Ogugua, C.F., Chikani, U.N., Okiche, C.Y., Ibekwe, U.M.  
Sociodemographic determinants of glycaemic control among children with type 1 diabetes in south eastern Nigeria  
(2021) *Pan African Medical Journal*, 38, art. no. 250. Cited 8 times.  
<https://www.panafrican-med-journal.com/content/article/38/250/full/>  
doi: 10.11604/pamj.2021.38.250.19790  
View at Publisher
- 
- 8 Nguyen, H.T.T., Moir, M.P.I., Nguyen, T.X., Vu, A.P., Luong, L.H., Nguyen, T.N., Nguyen, L.H., (...), Vu, H.T.T.  
Health-related quality of life in elderly diabetic outpatients in Vietnam  
(2018) *Patient Preference and Adherence*, 12, pp. 1347-1354. Cited 41 times.  
<https://www.dovepress.com/getfile.php?fileID=43347>  
doi: 10.2147/PPA.S162892  
View at Publisher
- 
- 9 Carr, A.J., Gibson, B., Robinson, P.G.  
Measuring quality of life is quality of life determined by expectations or experience?  
(2001) *British Medical Journal*, 322 (7296), pp. 1240-1243. Cited 618 times.  
<http://www.bmj.com.ezlib.iium.edu.my/>  
doi: 10.1136/bmj.322.7296.1240  
View at Publisher
- 
- 10 CPG - Management of Type 2 Diabetes mellitus (6th Edition)  
(2021)  
10. MEMS. MEMS. (accessed 28 October 2022)  
<https://mems.my/cpg-management-of-type-2-diabetes-mellitus-6th-edition/>
- 
- 11 Mooradian, A.D.  
Evidence-Based Management of Diabetes in Older Adults  
(Open Access)  
(2018) *Drugs and Aging*, 35 (12), pp. 1065-1078. Cited 19 times.  
<http://rd.springer.com.ezlib.iium.edu.my/journal/40266>  
doi: 10.1007/s40266-018-0598-3  
View at Publisher
-

- 12 Rochon, P.A., Petrovic, M., Cherubini, A., Onder, G., O'Mahony, D., Sternberg, S.A., Stall, N.M., (...), Gurwitz, J.H.  
**Polypharmacy, inappropriate prescribing, and deprescribing in older people: through a sex and gender lens (Open Access)**  
  
(2021) *The Lancet Healthy Longevity*, 2 (5), pp. e290-e300. Cited 56 times.  
<https://www.thelancet.com/lanhl/about>  
doi: 10.1016/S2666-7568(21)00054-4  
  
View at Publisher
- 
- 13 Robertson, L, Ayansina, D, Johnston, M, Marks, A, Black, C.  
Urban-rural and socioeconomic status: Impact on multimorbidity prevalence in hospitalized patients  
(2020) *J Comorb*, 10. Cited 7 times.  
13. 2235042X19893470
- 
- 14 Sohrabi, M.-R., Amin, R., Maher, A., Hannani, K., Alimohammadi, H., Zali, A.-R.  
**Urban and sub-urban disparities in health outcomes among patients with COVID-19; a cross-sectional study of 234 418 patients in Iran (Open Access)**  
  
(2022) *BMC Public Health*, 22 (1), art. no. 927. Cited 2 times.  
<http://www.biomedcentral.com/bmcpublichealth>  
doi: 10.1186/s12889-022-13290-x  
  
View at Publisher
- 
- 15 Gupta, S, Bansal, S.  
Effect of urbanization, sedentary lifestyle and consumption pattern on obesity: An evidence from India  
(2020) *SSRN Electron J*. Cited 3 times.  
15
- 
- 16 Rodríguez López, S., Bilal, U., Ortigoza, A.F., Diez-Roux, A.V.  
**Educational inequalities, urbanicity and levels of non-communicable diseases risk factors: evaluating trends in Argentina (2005–2013) (Open Access)**  
  
(2021) *BMC Public Health*, 21 (1), art. no. 1572. Cited 5 times.  
<http://www.biomedcentral.com/bmcpublichealth>  
doi: 10.1186/s12889-021-11617-8  
  
View at Publisher
- 
- 17 Htet, A.S., Bjertness, M.B., Sherpa, L.Y., Kjøllesdal, M.K., Oo, W.M., Meyer, H.E., Stigum, H., (...), Bjertness, E.  
**Urban-rural differences in the prevalence of non-communicable diseases risk factors among 25-74 years old citizens in Yangon Region, Myanmar: A cross sectional study**  
  
(2016) *BMC Public Health*, 16 (1), art. no. 1225. Cited 35 times.  
<http://www.biomedcentral.com/bmcpublichealth>  
doi: 10.1186/s12889-016-3882-3  
  
View at Publisher

- 18 Kim, Y.J., Jeon, J.Y., Han, S.J., Kim, H.J., Lee, K.W., Kim, D.J.  
Effect of socio-economic status on the prevalence of diabetes  
([Open Access](#))
- (2015) *Yonsei Medical Journal*, 56 (3), pp. 641-647. Cited 28 times.  
<http://www.eymj.org/Synapse/Data/PDFData/0069YMJ/ymj-56-641.pdf>  
doi: 10.3349/ymj.2015.56.3.641
- [View at Publisher](#)
- 
- 19 Ho, B.K., Jasvinder, K., Gurpreet, K., Ambigga, D., Suthahar, A., Cheong, S.M., Lim, K.H.  
Prevalence, awareness, treatment and control of diabetes mellitus among the elderly: The 2011 National Health and Morbidity Survey, Malaysia ([Open Access](#))
- (2014) *Malaysian Family Physician*, 9 (3), pp. 12-19. Cited 20 times.  
<http://e-mfp.org/wp-content/uploads/2015/03/2011-national-health-and-morbidity-survey.pdf>
- 
- 20 Pamungkas, R.A., Chamroonsawasdi, K., Vatanasomboon, P.  
A systematic review: Family support integrated with diabetes self-management among uncontrolled type II diabetes mellitus patients ([Open Access](#))
- (2017) *Behavioral Sciences*, 7 (3), art. no. 62. Cited 135 times.  
<https://www.mdpi.com/2076-328X/7/3/62/pdf>  
doi: 10.3390/bs7030062
- [View at Publisher](#)
- 
- 21 (1991) *Sample size determination in health studies: A practical manual*. Cited 1740 times.  
21. World Health Organization (WHO). Genève, Switzerland: World Health Organization
- 
- 22 Bujang, M.A., Adnan, T.H., Mohd Hatta, N.K.B., Ismail, M., Lim, C.J.  
A Revised Version of Diabetes Quality of Life Instrument Maintaining Domains for Satisfaction, Impact, and Worry  
([Open Access](#))
- (2018) *Journal of Diabetes Research*, 2018, art. no. 5804687. Cited 22 times.  
<http://www.hindawi.com/journals/jdr/>  
doi: 10.1155/2018/5804687
- [View at Publisher](#)
- 
- 23 Hamid N, Ab, Md Abdul Salam, NZ, Mat Nor, MF, Abd Rahman, SH, Hassim, MH, Nabees Khan, M.  
Strong family values and physical environment of neighborhood: Malaysian elders aspirations and preferences for living  
(2021) *International Journal of Law, Government and Communication*, 6 (22), pp. 28-35. Cited 2 times.  
adha 23
-

- 24 Teh, J.K.L., Tey, N.P., Ng, S.T.  
Family support and loneliness among older persons in multiethnic Malaysia (Open Access)  
  
(2014) *Scientific World Journal*, 2014, art. no. 654382. Cited 41 times.  
<http://www.hindawi.com/journals/tswj/>  
doi: 10.1155/2014/654382  
  
View at Publisher
- 
- 25 Jusoh, Z., Tohid, H., Omar, K., Muhammad, N.A., Ahmad, S.  
Clinical and sociodemographic predictors of the quality of life among patients with type 2 diabetes mellitus on the east coast of Peninsular Malaysia (Open Access)  
  
(2018) *Malaysian Journal of Medical Sciences*, 25 (1), pp. 84-95. Cited 7 times.  
[http://journal.usm.my/journal/10MJMS25012018\\_OA8.pdf](http://journal.usm.my/journal/10MJMS25012018_OA8.pdf)  
doi: 10.21315/mjms2018.25.1.10  
  
View at Publisher
- 
- 26 Yeap, C.  
A closer look at the latest data on ethnic income gap  
(2020) *The Edge Markets*. Cited 3 times.  
26. (accessed 28 October 2022)  
<https://www.theedgemarkets.com/article/closer-look-latest-data-ethnic-income-gap>
- 
- 27 Karachaliou, F., Simatos, G., Simatou, A.  
The Challenges in the Development of Diabetes Prevention and Care Models in Low-Income Settings (Open Access)  
  
(2020) *Frontiers in Endocrinology*, 11, art. no. 518. Cited 30 times.  
<https://www.frontiersin.org/journals/endocrinology#>  
doi: 10.3389/fendo.2020.00518  
  
View at Publisher
- 
- 28 Svendsen, M.T., Bak, C.K., Sørensen, K., Pelikan, J., Riddersholm, S.J., Skals, R.K., Mortensen, R.Nø., (...), Torp-Pedersen, C.  
Associations of health literacy with socioeconomic position, health risk behavior, and health status: A large national population-based survey among Danish adults (Open Access)  
  
(2020) *BMC Public Health*, 20 (1), art. no. 565. Cited 163 times.  
<http://www.biomedcentral.com/bmcpublichealth>  
doi: 10.1186/s12889-020-08498-8  
  
View at Publisher
- 
- 29 Kaur, J., Kaur, G., Ho, B.K., Yao, W.K., Salleh, M., Lim, K.H.  
Predictors of physical inactivity among elderly Malaysians: Recommendations for policy planning (Open Access)  
  
(2015) *Asia-Pacific Journal of Public Health*, 27 (3), pp. 314-322. Cited 24 times.  
<https://journals.sagepub.com/home/APH>  
doi: 10.1177/1010539513517257  
  
View at Publisher

- 30 Kirwan, J.P., Sacks, J., Nieuwoudt, S.  
**The essential role of exercise in the management of type 2 diabetes** ([Open Access](#))  
  
(2017) *Cleveland Clinic journal of medicine*, 84 (7), pp. S15-S21. Cited 181 times.  
doi: 10.3949/ccjm.84.s1.03  
  
[View at Publisher](#)
- 

- 31 Edelman, S.V.  
**Taking control of your diabetes: An innovative approach to improving diabetes care through educating, motivating, and making the connection between patients and health care providers** ([Open Access](#))  
  
(2017) *Clinical Diabetes*, 35 (5), pp. 333-339. Cited 3 times.  
<http://clinical.diabetesjournals.org/content/35/5/333.full.pdf>  
doi: 10.2337/cd17-0090  
  
[View at Publisher](#)
- 

- 32 Huang, E.S., Lipska, K.J.  
**The Cost and Safety of Insulin in Older Adults** ([Open Access](#))  
  
(2021) *JAMA Internal Medicine*, 181 (5), pp. 608-609.  
<http://archinte.jamanetwork.com/issues.aspx>  
doi: 10.1001/jamainternmed.2020.9185  
  
[View at Publisher](#)
- 

- 33 Huebschmann, A.G., Huxley, R.R., Kohrt, W.M., Zeitler, P., Regensteiner, J.G., Reusch, J.E.B.  
**Sex differences in the burden of type 2 diabetes and cardiovascular risk across the life course** ([Open Access](#))  
  
(2019) *Diabetologia*, 62 (10), pp. 1761-1772. Cited 165 times.  
<link.springer.de/link/service/journals/00125/index.htm>  
doi: 10.1007/s00125-019-4939-5  
  
[View at Publisher](#)
- 

- 34 34. TheLancet.com. (accessed 28 October 2022)  
[https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(18\)30026-4/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(18)30026-4/fulltext)
- 

- 35 Erpeldinger, S., Rehman, M.B., Berkhout, C., Pigache, C., Zerbib, Y., Regnault, F., Guérin, E., (...), Boussageon, R.  
**Efficacy and safety of insulin in type 2 diabetes: Meta-analysis of randomised controlled trials** ([Open Access](#))  
  
(2016) *BMC Endocrine Disorders*, 16 (1), art. no. 39. Cited 41 times.  
<http://www.biomedcentral.com/bmcendocrisord/>  
doi: 10.1186/s12902-016-0120-z  
  
[View at Publisher](#)
-

□ 36 Kalra, S., Jena, B.N., Yeravdekar, R.

### Emotional and psychological needs of people with diabetes

(2018) *Indian Journal of Endocrinology and Metabolism*, 22 (5), pp. 696-704. Cited 119 times.

[www.ijem.in/](http://www.ijem.in/)

doi: 10.4103/ijem.IJEM\_579\_17

[View at Publisher](#)

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