HUNTINGTON'S DISEASE PREVALENCE IN ASIA: a systematic review and meta-analysis

Basavaraja Papanna; Carlo Lazzari, Marco Rabottini.
Essex Partnership University NHS Foundation Trust

Introduction

The epidemiological studies suggest Huntington's disease (HD) is significantly lower in the Asian Population than Western Population

Aim

To systematically review the epidemiological studies of HD in Asia comparing the level of impact of the disease on the Asian Population to that of Western population

Method

Original articles and reviews about HD prevalence in the Asian Population were found through databases; Embase, Medline, Psych Info and subsequently analyzed.

A meta-analysis was performed on prevalence rates to find the degree of similarities with I2.

Point prevalence measured as the number of people affected by HD in a 100,000 population and was expressed as Point Prevalence (PP) = Number of people affected/100,000 with 95% Confidence Intervals (CI95)

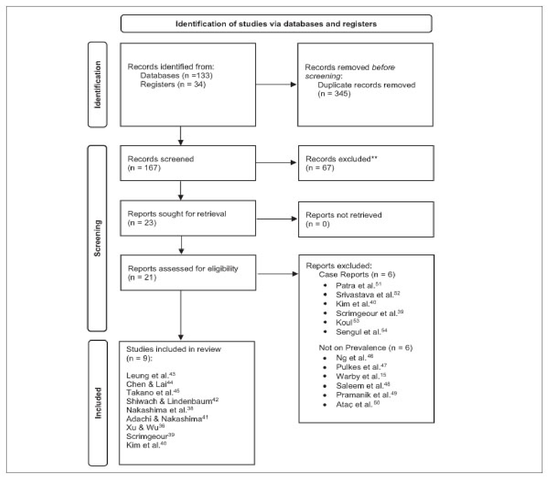

Figure 1. PRISMA Flowchart of relevant literature search.
[From: Page MJ, et al.[17]. For more information, visit: http://www.prisma-statement.org/]

Results

Random-effect meta-analysis show the highest point prevalence of HD in the Middle East with PP=4.0 (CI95=2.90-5.30)

The lowest point in the Chinese population PP=0.25 (CI95=0.16-0.36)

Europe has a high prevalence than Asia with PP=1.00 (CI95=0.82-1.19)

Asia's overall prevalence is P=0.70 (CI95=0.44-1.0)

Table 3. Summary of findings of the prevalence of HD in Asia.

Country	Study	Point prevalence	(OR 95% CI)
China and Hong-Kong	Leung et al.[43]	0.25	0.16-0.36
Taiwan	Chen & Lai[44]	0.42	0.30-0.55
Japan	Takano et al.[45]	0.50	0.37-0.64
Pakistan, Punjab and Gujarat	Shiwach & Lindenbaum[42]	1.35	1.14-1.57
San-in area, Western Japan	Nakashima et al.[38]	0.65	0.51-0.81
San-in area, Western Japan	Adachi & Nakashima[41]	0.72	0.57-0.89
Japan	Xu & Wu[36]	0.40	0.26-0.87
Middle East	Scrimgeour[39]	0.40	0.29-0.53
Korea	Kim et al.[40]	0.41	0.30-0.54
Overall prevalence		0.67	0.43-1.04

*Point prevalence= number of affected persons x 100,000 inhabitants.

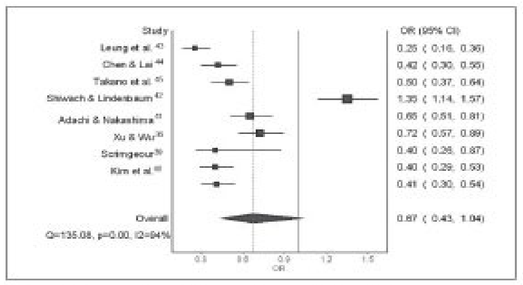

Figure 2. Forest Plot of the prevalence of HD in Asia.

Conclusion

Our study reveals HD affects lesser extent Asian population than Europe

Plausible explanations for difference in prevalence:

- **Affected individuals may not self refer to HD screening for fear of social stigma, negative influence in marriage, lack of genetic and neurological testing**
- **Studies that used genetic testing, were able to identify the CAG repeats, subgroups A1 & A2, and haplogroup C, which has less predisposition to high HD prevalence in Asians compared to the Caucasian population.**

Limitations:

To further understand HD prevalence and support genetic testing-based diagnostic screening, more study is needed.

Ph: 07886382348
Email: rajpapanna123@gmal.com

Papanna B, Lazzari C, Rabottini M. Huntington's disease prevalence in Asia: a systematic review and meta-analysis. *Riv Psichiatr* 2024;59(1):4-12. doi 10.1708/4205.41943