

UNDERSTANDING DIFFERENCES AMONG ERECTILE DYSFUNCTION PATIENTS GLOBALLY

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ABSTRACT

OBJECTIVES: Erectile dysfunction (ED) is a common sexual problem in men, although under-reporting of ED is widespread. This analysis seeks to explore the prevalence of the condition across select geographies and to compare the profile of sufferers among men identifying with an ED problem.

METHODS: Data from 94,711 men interviewed in the US, EU (UK, France, Germany, Italy, Spain), Japan (JP), China (CH), Brazil (BR), and Russia (RU) National Health and Wellness Surveys (NHWS), a cross-sectional internet or CAWI-based survey representative of the adult population, conducted in 2011 or 2012. Data were weighted based on sex and age for each region. Men were classified as having ED if in the past six months, they had difficulty achieving/maintaining an erection. Health-related quality of life (HRQoL) was assessed with the SF-12v2, and activity impairment was measured with the Work Productivity and Activity Impairment questionnaire (WPAI). Comparisons between patient groups were made with chi-square tests for categorical variables and ANOVA for continuous variables.

RESULTS: Prevalence of ED differs significantly across geographies, with Japan having the highest percentage (42.6%, 21.7 M) followed by China (34.7%, 87.8 M) and US (33.7%, 37.6 M), and Brazil having the lowest (14.9%, 10.0 M) (p<0.05). In the established markets (US, EU, Japan), ED sufferers are significantly older (mean ages 51, 57, and 52, respectively) than in emerging markets (CH, BR, RU) (mean ages 45, 44, and 46) (p<0.05). Men with ED in Russia had significantly lower PCS (42.3) and MCS (45.5) QoL scores compared to all other regions (p<0.05). Men with ED in China reported the greatest degree of work productivity loss (34% vs. ~20-25%, p<0.05) and activity impairment (32% vs. 19-30%, p<0.05).

CONCLUSIONS: Cross-regional comparisons of ED can provide insights to the magnitude of the problem and assess disease burden among these sufferers.

Adjustments made to submitted abstract due to results of quality checks.

INTRODUCTION

- Erectile Dysfunction (ED), defined as the inability to achieve or maintain an erection for satisfactory sexual performance, is a worldwide problem that is rapidly increasing in prevalence as the population ages. Although increasing age does not itself cause ED, many comorbidities associated with age can lead to decreased sexual function.¹
- ED can be caused by many factors: physical conditions such as cardiovascular disease; lifestyle factors such as drinking alcohol, smoking, and overweight/obesity; and psychological causes such as depression, anxiety, and stress.¹
- Underreporting of ED is common due largely to the embarrassing nature of the condition. Therefore, prevalence is difficult to estimate.²

OBJECTIVES

- To estimate the prevalence of ED in established and developing markets and to compare profiles of men with ED in across geographies.

METHODS

Data Source

Data were taken from the Kantar Health National Health and Wellness Survey (NHWS), a cross-sectional internet-based survey representative of the adult population of each respective country. China and US data used were from the 2012 NHWS and Brazil, Russia, and 5EU (France, Germany, Italy, Spain, UK) data were from the 2011 NHWS. Japan data were obtained through a recontact study in 2011 using NHWS respondents. Data were weighted to represent the total adult populations of Brazil, 5EU, Japan, and US, and the total urban populations of China and Russia.

Sample

- The study included male respondents who self-reported experiencing difficulty achieving or maintaining an erection in the past six months.

Measures

- Health-related quality of life (HRQoL) was assessed using the SF-12 Health Survey (SF-12v2) for surveys completed in 2011 and the SF-36v2 Health Survey for surveys completed in 2012.³ Work and activity impairment were measured with the Work Productivity and Activity Impairment questionnaire (WPAI).⁴
- Comparisons between patient groups were made with chi-square tests for categorical variables and ANOVA for continuous variables.

RESULTS

- Japan had the highest prevalence of ED at 42.6% (21.7 M), followed by China and US (34.7%, 87.8 M; and 33.7%, 37.6 M; respectively), then 5EU and Russia (20.7%, 26.0 M; and 20.1%, 7.6 M; respectively), and, lastly, Brazil (14.9%, 10.0 M) (see **Table 1**).
- Whether or not men spoke with their doctor about ED varied greatly by country: men in the 5EU did so the most often (43.9%), followed by the US (39.4%), Brazil (24.7%), China (16.1%), and Russia (12.2%) (all ps<0.05).
- Men in western geographies (US and 5EU) were by far the most likely to use a prescription medication (Rx) (13-14%), while only 5-7% of the men in other geographies did so.
- Treating physician type varied by geography, with Primary Care Physicians (PCPs) prescribing more than half of the treatments in developed markets, and urologists prescribing the majority of Rxs in emerging markets.

Table 1: Prevalence and Treatment of Men with Self-reported ED Across Geographies

	U.S. 2012 (A)	5EU 2011 (B)	Japan 2011 (C)	China 2012 (D)	Brazil 2011 (E)	Russia 2011 (F)
Sample Size	n=34743	n=28511	n=10091	n=10228	n=5983	n=5155
Projection (thousands)	111496	125522	50963	252968	67226	37656
Experience ED	33.7% ^{BEF}	20.7% ^E	42.6% ^{ABDEF}	34.7% ^{BEF}	14.9%	20.1% ^E
Spoken to a Doctor About ED	39.4% ^{DEF}	43.9% ^{DEF}	5.6% [*]	16.1% ^F	24.7% ^{DF}	12.2%
Use Rx for ED [†]	13.5% ^{DEF}	13.6% ^{DEF}	5.5% [*]	5.7%	6.1%	6.7%
Prescribing Physician: PCP/GP/Internist/ General Internist	75.8% ^{BDEF}	63.3% ^{DEF}	58.5% [*]	31.6% ^{EF}	9.6%	8.8%
Prescribing Physician: Urologist	15.1%	28.1% ^A	35.2% [*]	58.3% ^{ABF}	83.1% ^{ABDF}	26.0%

Note: Letters indicate statistically significant differences across the comparison groups (p<0.05).
EU: European Union; ED: Erectile Dysfunction; Rx: Prescription medication; PCP: Primary Care Physician; GP: General Practitioner
[†]In Japan, use any product (including Rx).
^{*}Due to differing methodologies, Japan was not statistically compared with the other geographies.

- Men with self-reported ED in developed markets were significantly older than in emerging markets. Men in 5EU were the oldest (56.52), followed by US (51.12) and Japan (51.91). Men in the emerging markets averaged in their mid-40s (see **Table 2**).
- Men in Russia were the most likely to drink (87.4%) and smoke (51.7%). Men in US and 5EU were far more likely to be overweight/obese (70-75%) and have comorbidities associated with ED (hypertension, diabetes, and depression), though Russian men had comparable rates of hypertension and Brazil comparable rates of depression.¹

Table 2: Risk Factors Among Men with Self-reported ED Across Geographies

	U.S. 2012 (A)	5EU 2011 (B)	Japan 2011 (C)	China 2012 (D)	Brazil 2011 (E)	Russia 2011 (F)
Sample Size	n=12710	n=6163	n=4217	n=3510	n=964	n=935
Projection (thousands)	37559	26024	21724	87818	9998	7552
Mean Age (years)	51.12 ^{DEF}	56.52 ^{ACDEF}	51.91 ^{ADEF}	44.98	43.95	46.38 ^{DE}
Currently Smoke	24.3%	26.2% ^A	29.0% ^{AB}	40.6% ^{ABCE}	27.1%	51.7% ^{ABCDE}
Drink Alcohol	70.2%	83.4% ^{AE}	83.3% ^{AE}	84.7% ^{AE}	67.7%	87.4% ^{ABCE}
Overweight/Obese [†]	74.7% ^{BDEF}	70.9% ^{CDEF}	24.8%	31.4% ^C	63.2% ^{CD}	63.9% ^{CD}
Diagnosed Hypertension	37.6% ^{BDE}	34.4% ^{CDE}	17.9%	22.6% ^C	22.3% ^C	35.3% ^{CDE}
Diagnosed Diabetes	17.7% ^{CDEF}	17.5% ^{CDEF}	6.2%	5.2%	9.7% ^{DF}	4.7%
Diagnosed Depression	18.8% ^{BCDEF}	13.7% ^{DF}	3.9%	4.8%	13.9% ^{DF}	4.1%

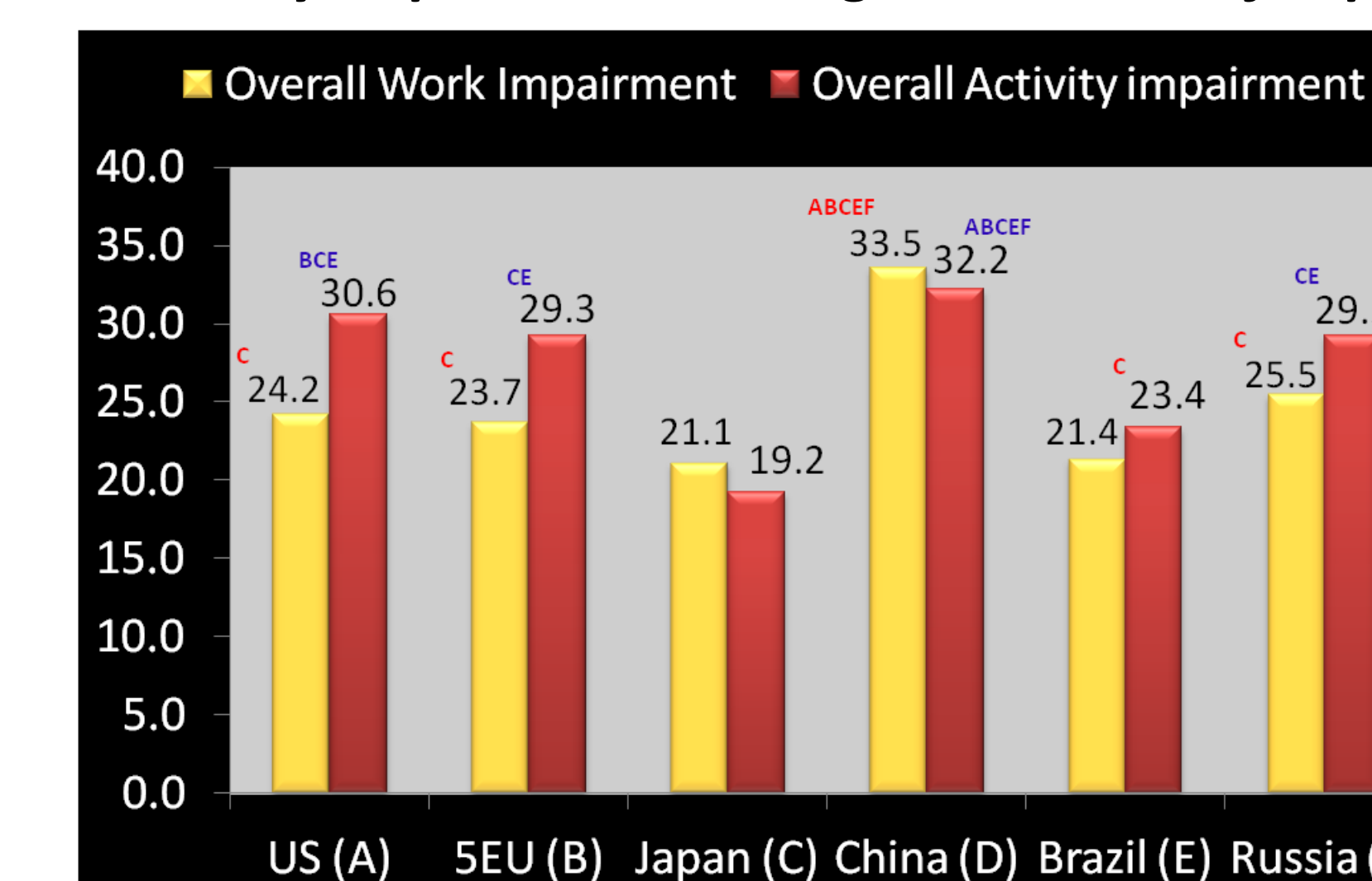
Note: Letters indicate statistically significant differences across the comparison groups (p<0.05).
EU: European Union
[†]Body Mass Index ≥25

- Men with ED in China had the highest overall work impairment (33.5%), and Japan and Brazil had the lowest (21%). Activity impairment followed the same trend seen in overall work impairment (see **Figure 1**).

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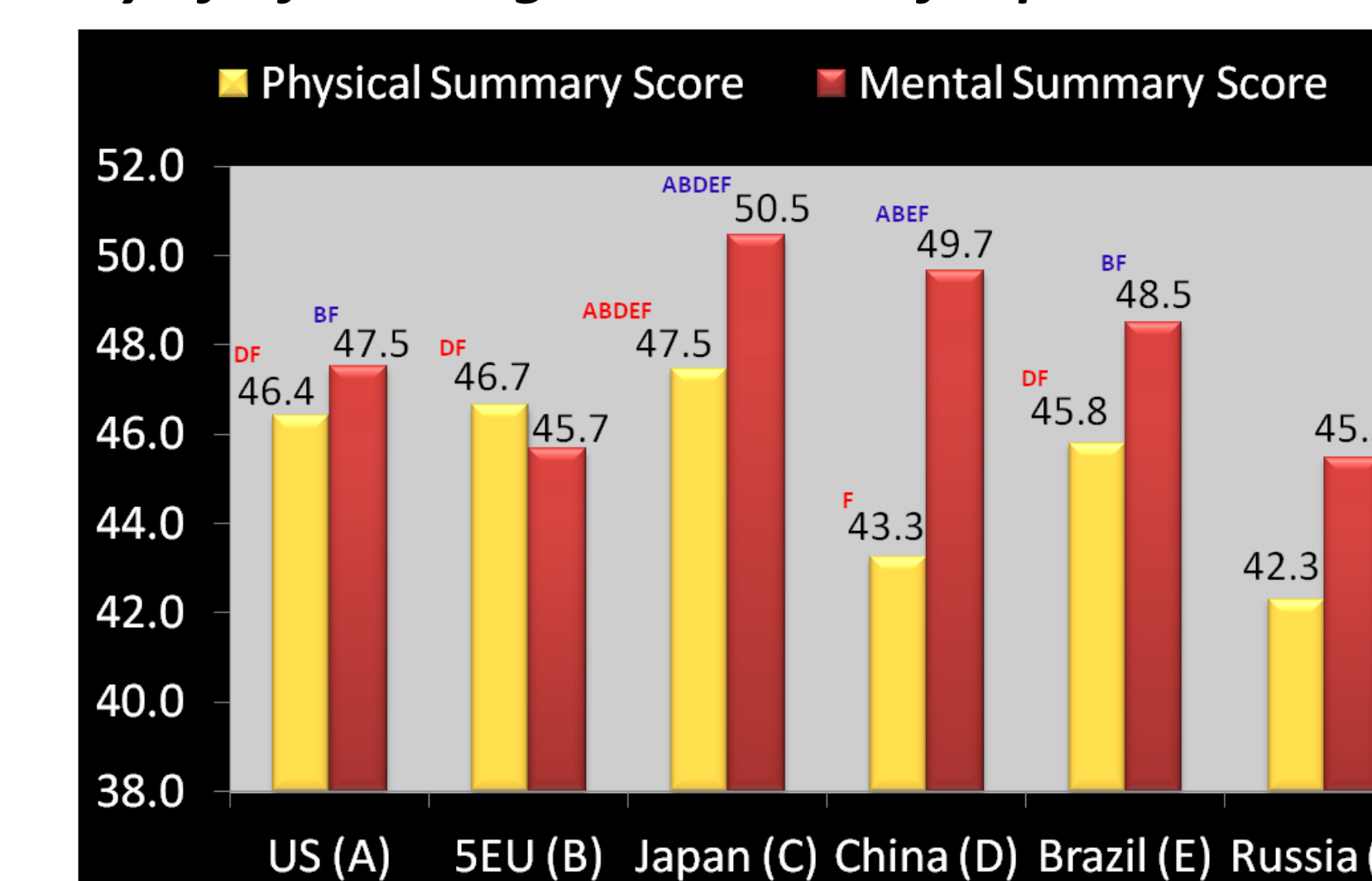
Figure 1: Overall Work and Activity Impairment Among Men with Self-reported ED Across Geographies



Note: Letters indicate statistically significant differences across the comparison groups (p<0.05).
Overall work impairment is based out of men employed full-time: US 13.7 M; 5EU 8.0 M; Japan 11.3 M; China 64.1 M; Brazil 4.3 M; Russia 4.7 M.

- Concerning quality of life (QoL), Japanese men with ED had the highest physical (47.5) and mental (50.5) summary scores, indicating the least amount of physical or mental impairment. Russian men had the lowest physical QoL (42.3), while both 5EU and Russia had the lowest mental QoL (~46), indicating the greatest amount of physical or mental impairment (see **Figure 2**).

Figure 2: Quality of Life Among Men with Self-reported ED Across Geographies



Note: Letters indicate statistically significant differences across the comparison groups (p<0.05).
US and China were evaluated using the SF-36. 5EU, Japan, Brazil, and Russia were evaluated using the SF-12v2.

DISCUSSION

- Results from the NHWS are comparable with a study in 2005 comparing rates of ED in Brazil, Italy, and Japan; Japan had the highest rate of ED (34%), followed by 17% in Italy and 15% in Brazil.⁵
- A survey in the US revealed men felt more comfortable discussing ED with their PCP than a urologist.² This is reflected in the NHWS US results; men in the US were more likely than in any other country to be treated by a PCP (75.8%) and least likely to be treated by a urologist (15.1%).
- Although men in Japan had the highest prevalence of ED, they had fewer risk factors and better outcomes compared to the other geographies. However, a study that specifically examined Japanese men found they had the same risk factors as in other countries.⁶ Analysis of Japanese men with ED versus without ED may reveal significant differences in risk factors that are not seen in a global comparison.

CONCLUSIONS

- Despite advances in the ED market, men are still reluctant to discuss ED with their physicians; this creates a barrier to potential treatment.
- Physician involvement is critical in order to offer treatments. Countries where men were most likely to speak with their physicians (US, 5EU) were also the most likely to use an Rx (13%). In the US, there is an opportunity to encourage PCPs to initiate discussions about ED with their patients.
- Differences revealed in the global markets can be explored at the local level to better understand the mental and physical impacts of ED and to guide treatment.

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