

Association between Grade 2 Disability and delay in diagnosis

G2 Disability

- G2 disability- visible deformity?
- Of the hands, feet and/or eyes
- Used as a proxy measure for delay in presentation
- Easier to recall, measure and report

Delay-definition/criteria

- Variability in definition
- Why different in leprosy?
- Lack of consensus
- Problems in data collection- recall bias

Delay



Delay or Early?

- **Early detection:** defined as diagnosis and start of treatment before the onset of nerve impairment (WHO)
 - No time limit defining persistent symptoms
 - Ignores delay that does not result in impairment
 - At risk of impairment
 - Early signs- recovery
- **Timely detection:** balance between detection that is neither too early nor too late (WHO)
 - Time lag for early or delay? Not > 6 months (Muller)

Delay

- Patient related
- Physician related
- Access related



Delay-common occurrence?

■ Libya	54	51% <12 months
■ Cuba	87	Mean delay 16.6 months
■ Kuwait	121	10.5 months
■ UK	28	3.1 months
■ Paraguay	36	47 months
■ China	1805	39 months
■ China	27928	55% <2 years, 7% >10 yrs
■ Ethiopia	692	28.8 months
■ Brazil	87	71% >6 months
■ India	560	17.7% <12 months
■ Nepal	166	37.6 months

Delay and disability

Delay between onset and registration is a risk factor for impairment

Delay and disability

- Zimbabwe- 802 cases (1983-1992): Mean delay 2.6 yrs. Patients with disability had longer delay
- Thailand- 640 cases (1987-1990): Significant relationship between impairment and duration of disease
- Paraguay: Mean delay for 0 grade - 16 Mo
Mean delay for Grade 1- 57 Mo
Mean delay for Grade 2- 82 Mo

Delay and disability

- China: Risk of deformity is 15-18 times more with delay in diagnosis of >5 years. Paralytic deformity is rare in patients (<1%) diagnosed early (< 1 year)
- Ethiopia: Median delay among the new with disability- 26 months; among the new without disability -12 months. Delay between noticing of symptom and first act longer, delay between first act and visit to recognised clinic longer, delay between visit to recognised clinic and start of treatment longer for the disabled.

Delay and disability

- Brazil: 100 patients: delay (7 months or more) was significantly associated with impairments at diagnosis;
- China: association in the trend between disability and delay. Before 1991: mean delay was 4.89 yrs and disability % was >50%; Post 1991: Mean delay was 3.24 yrs and disability proportion 20.8%.

Delay and disability

- India: 252 child cases (1994-2003): 58.6% of those with deformities mean delay was <1 yr. 78.4% of those without deformities mean delay was <1 year.
- India: Paralytic deformity is 1% among patients diagnosed <1 year of first symptom. It increases from 3.9% at 1-3 years to 25% when diagnosed late (>8 years). Less marked among MB.

Data from 11 DF supported projects in India:1999-2008

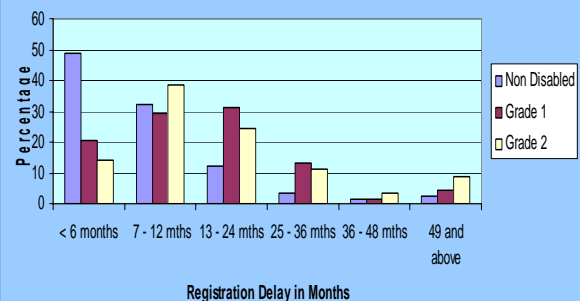
Delay	ND	G1	G2
<6m	3399 (49)	93 (20.4)	75 (14.2)
<12m	2201 (32)	133 (29.2)	203 (38.4)
<24m	821 (12)	141 (31)	128 (24.2)
<36m	230 (3.3)	60 (13.2)	58 (11)
<48m	89 (1.3)	7 (1.5)	17 (3.2)
>48	194 (2.8)	21 (4.6)	46 (8.7)

Total cases: 8362; data NA: 223; Total: 8139- 455 G1, 527 G2, 7157 ND

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<12m	2201 (32)	133 (29.2)	203 (38.4)
>12m	1334 (19.4)	229 (50.3)	249 (47.1)

Registration Delay by Disability Status at the Time of Diagnosis in DF supported Projects : 1999 - 2008



Delay and disability- lessons

- Delay between onset and registration is a risk factor for impairment. Higher rate of impairment with longer delay. Less when delay is <1 year.
- Presence and severity of impairment are associated with duration of disease
- Impairment is more in passively detected than actively detected cases (Malawi)?
- Early diagnosis could prevent impairments in >30% of all patients in control programme (Bangladesh)
- Decrease in registration delay coincides with decreasing trend in proportion of cases with disability (Thailand)
- Median registration delay is >twice in disabled as compared to non-disabled.

Conclusion

- There seems to be a direct association between registration delay and impairments at diagnosis
- Timely detection could prevent impairments in a large proportion of patients.