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Hong Kong Urological Association

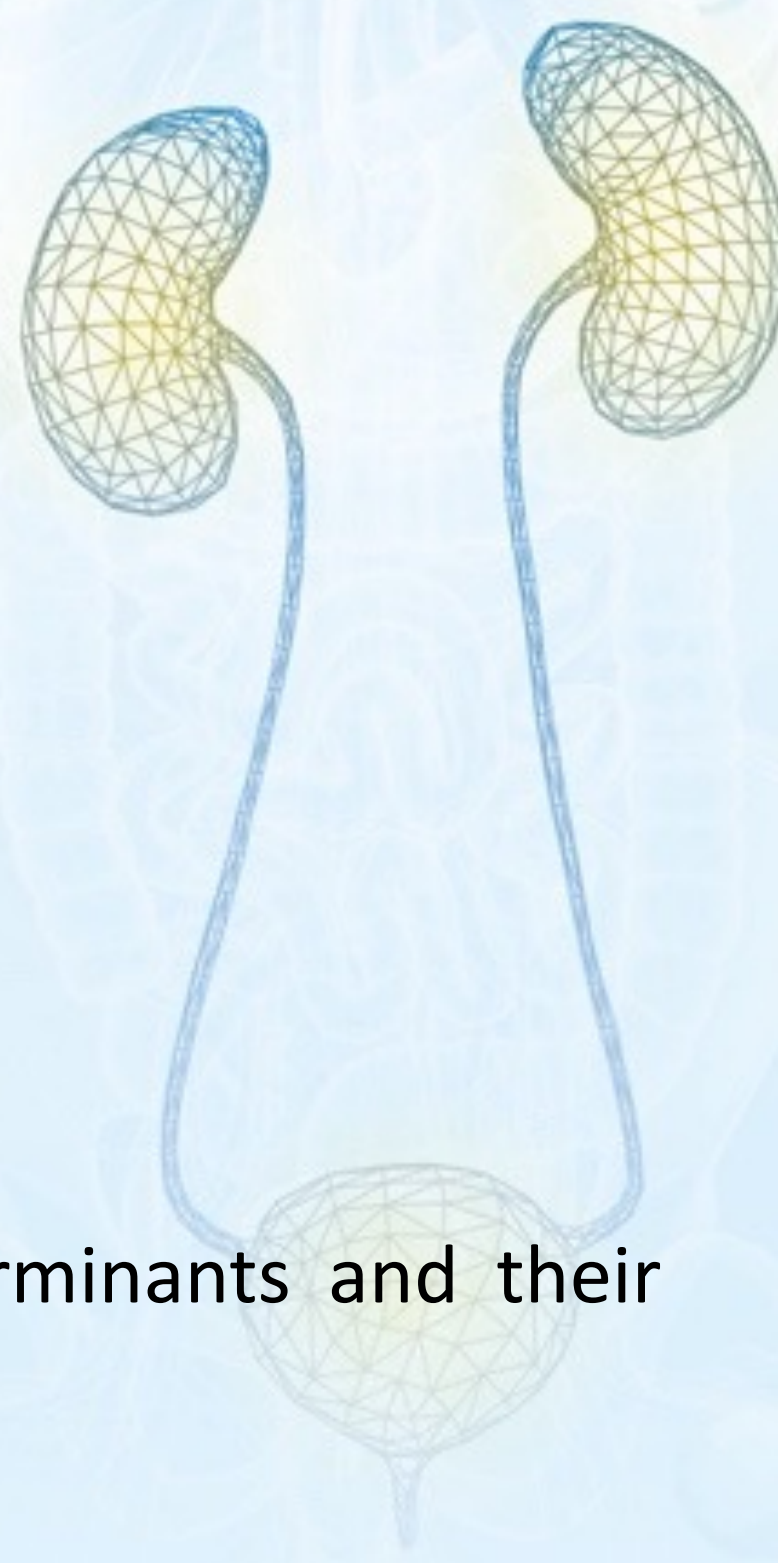
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Socioeconomic status on prostate cancer survival

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Background

Socio-economic status disparity has been a long standing issue in Hong Kong. This is a retrospective study focusing on the determinants and their association on prostate cancer patient survival.

Patient selection

This study included prostate cancer patients from UCH and TKOH with histological diagnosis of Ca Prostate from 2014-2023. Such diagnosis were obtained by transrectal ultrasound biopsy and transurethral resection of prostate. A total of 2204 patients were included in this study. Mean age of patients is 72.39-year-old with a standard deviation of 7.99 years.

Socio-economic status determinants were extracted from data entry during hospital admissions. Determinants include educational level, accommodation, marital status and financial support were investigated in this study.

Education level	Ratio	Financial support	Ratio	Marital status	ratio	Accommodation	Ratio
No school / Kindergarten	13.11%	CSSA	15.78%	Married	89.99%	Public rental flat	63.45%
Primary	42.68%	Old Age Allowance	42.96%	Divorced	3.18%	Private residential flat	32.11%
Secondary	36.54%	Self-supporting	24.67%	Single	6.77%	Old aged home	3.02%
Tertiary	6.56%	Supported by family	15.11%			Other	0.39%
		Disability Allowance	1.48%			Hospital	0.39%
						Traditional village house	0.39%
						Hostel	0.26%

Outcome measures

The primary outcome is the survival of prostate cancer patient with different socio-economic determinants. The secondary outcomes of this study are patient demographics at diagnosis, including PSA level, age and metastatic status.

Results

For the primary outcome, Kaplan-Meier curves were plotted with patients grouped into different socio-economic determinants. There are significant survival difference among patients with different educational backgrounds (Fig.A), where patients with higher educational background has better survival.

Similar results were displayed in financial support (Fig.B), accommodation (Fig.C) and marital status (Fig. D). With non CSSA patients, married patients, and private housing estate having better survival with prostate cancer.

All the survival curves has no significant overlapping, showing statistical significance.

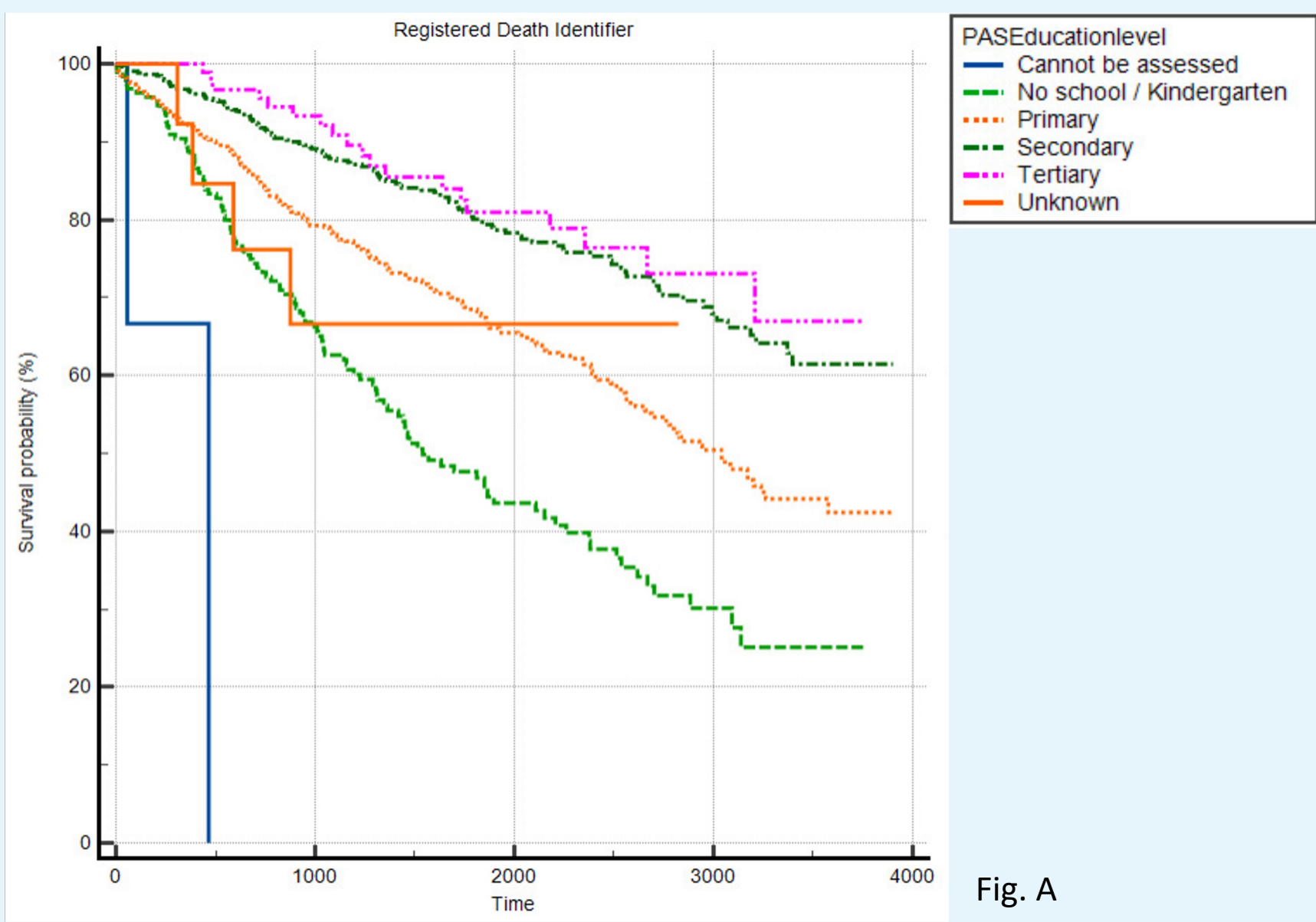


Fig. A

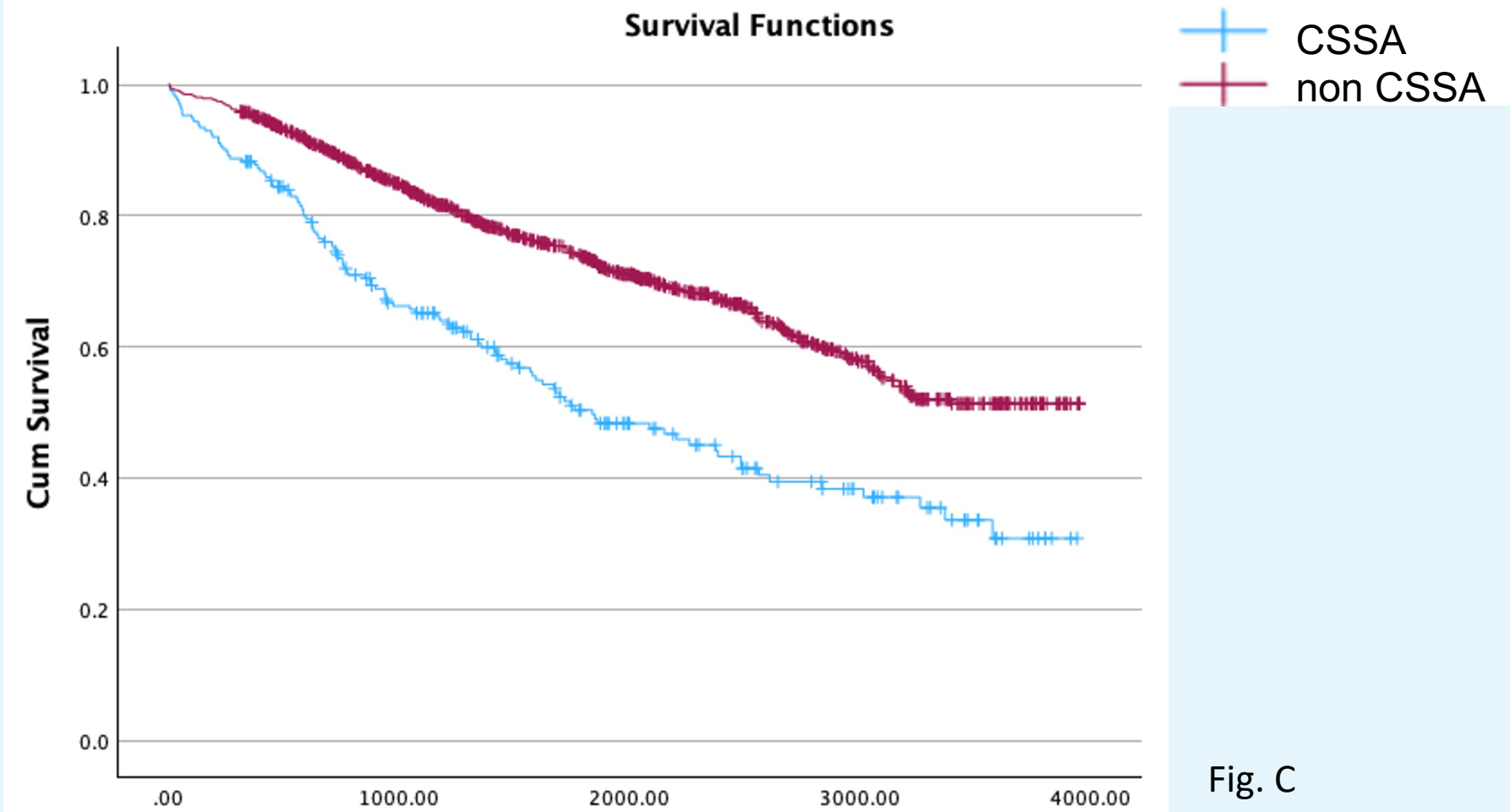


Fig. C

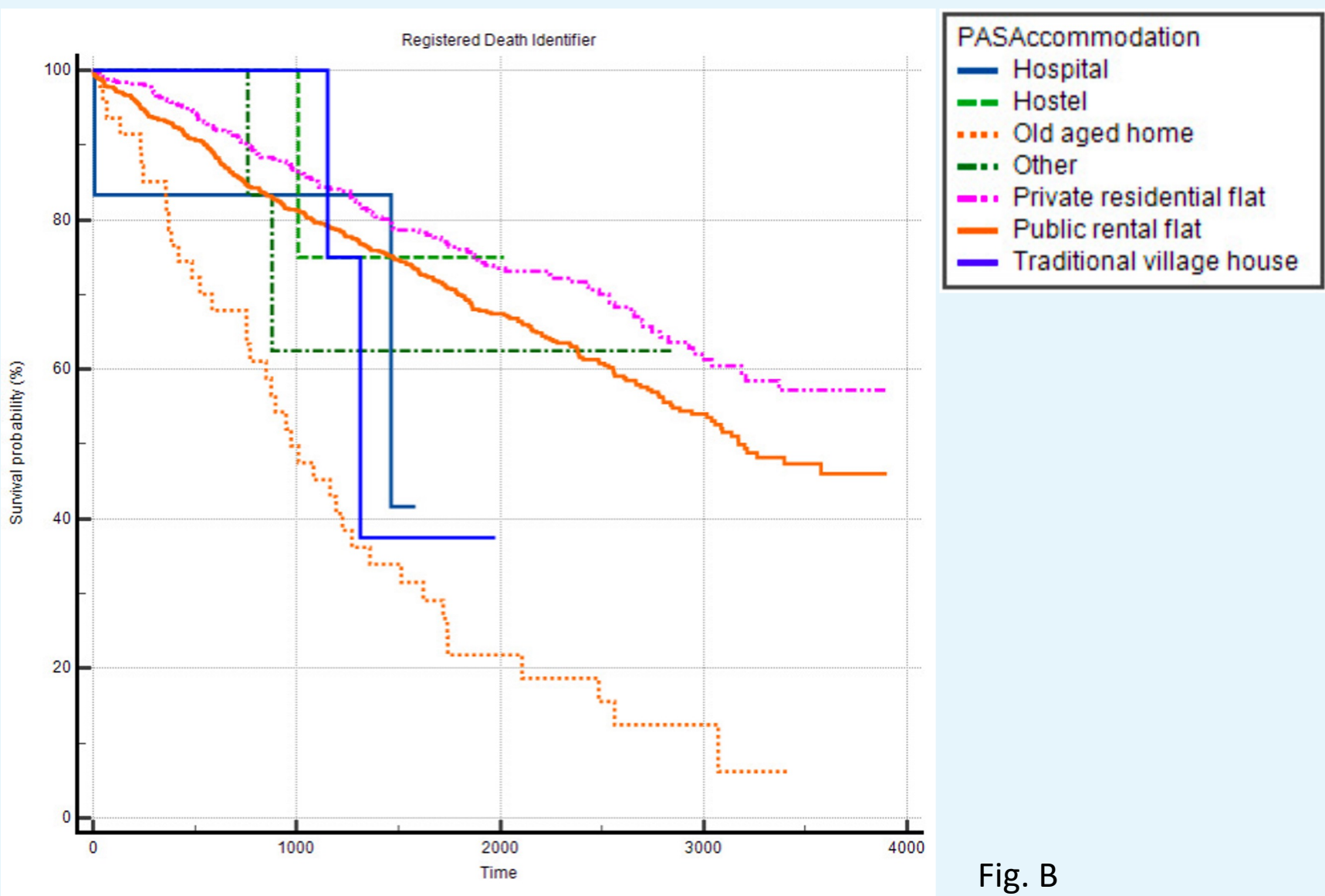


Fig. B

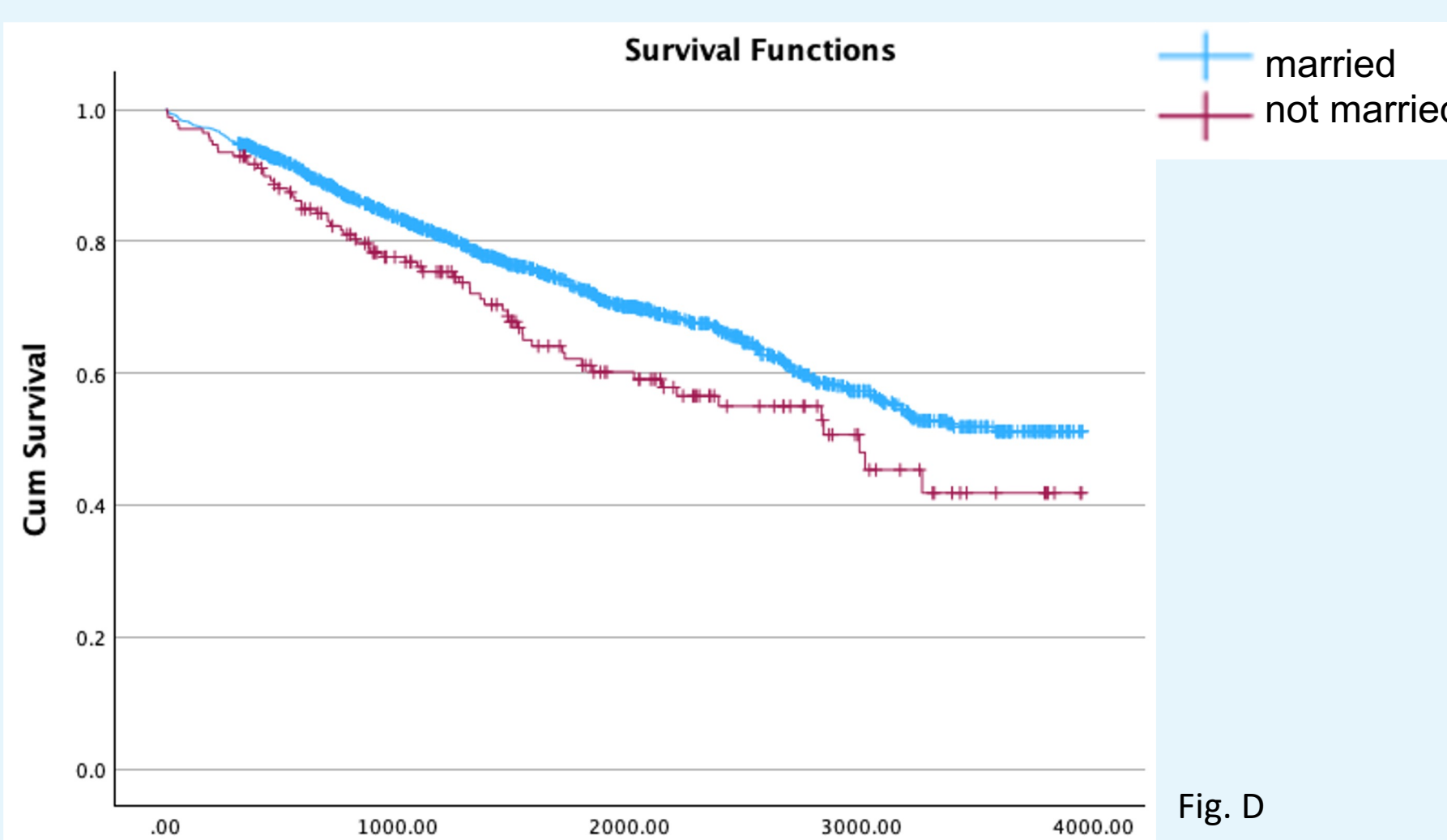


Fig. D

Accommodation	PSA median	Age when dx	P-value
Hostel	1660.8	68(+/-17)	.001
Old aged home	35.45	81(+/-7.5)	
Private residential flat	18.9	73(+/-8.2)	
Public rental flat	22.05	74 (+/-8.3)	

Fig. E

Educational background	PSA median	Age when dx	P-value
No school / Kindergarten	25	79(+/-7.7)	.000
Primary	22.7	75.8 (+/-8)	
Secondary	21.85	71.7 (+/-8.8)	
Tertiary	16	71.39 (+/-5.3)	

Fig. F

Financial support	PSA median	Age when dx	P-value
CSSA	36	77.8 (+/- 7.7)	.000
Disability Allowance	307.5	73 (+/-13.1)	
Old Age Allowance	21.85	77.5(+/-6.7)	
Self-supporting	14.9	66 (+/-5.9)	
Supported by family	16.85	72.5(+/-6.9)	
Supported by others	5.2	77.5(+/-2.1)	

Fig. G

Marital status	PSA median	Age when dx	P-value
Cohabited	45.2	77(+/-15.6)	.000
Divorced	27.5	72.9(+/-6.2)	
Married	19.55	74.18(+/-8.4)	
Separated	92.1	67.75(+/-7.5)	
Single	33.4	75.63(+/-9.4)	
Widowed	47.2	80.73 (+/- 6.3)	

Fig. H

For the secondary outcome, median PSA, age and metastatic status when first diagnosed were calculated. There are significant result for patient with higher socio-economic determinant (i.e. private residential flat, tertiary educational background, non-CSSA patients, married) to have lower PSA median when first diagnosed. The age when first diagnosed is also statistically significantly lower for patient with higher socio-economic determinant. However, metastatic status was not statistically significant amongst different groups.

Limitations

There are data loss due to unretrievable identifiers. Also, not all entry are complete on patient admission. There are also confounding factors among socio-economic determinants.

Conclusion

Socio-economic status has an impact on prostate cancer survival. This study shows some relationship between lower socio-economic status and lower cancer survival. Also, initial PSA level and age of diagnosis showed some correlations.

Application

Despite some factors are non-amendable, social resources allocation can be focused on certain socio-economic group to improve diagnosis and thus survival of these less favorable groups. Patient education and awareness of prostate cancer should be advocated by health care sector.