

## SMOKELESS TOBACCO USE IN THE UNITED STATES MILITARY

**Table 1.** Summary of the 39 studies by ST user population variables reported, ST use level (definition and prevalence %) and concurrent use (definition and prevalence %).

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Ames, Cunradi, & Moore (2002)	None reported	Current: used ST in the 30 days before entering BMT	12%	Not applicable	
Bahrke, Poland, Baur, & Connors (1988)	Gender, age, length of ST use	Daily/regular: not further specified	Study 1: 8.2% Study 3: 51.8%	Not applicable	
Ballweg & Bray (1989)	Gender, rank	Current: not further specified	9.5%	Cigarette smokers who also use ST	20.9%
Burns & Williams (1995)	Gender, age amount of ST used	Current: not further specified	22%	ST users who also smoke cigarettes	7%
Chisick (2000)	None reported	Current: not further specified	31%	Not applicable	
Chisick, Poindexter, & York (1998)	Gender, race/ethnicity, age	Current: ST user if answered “yes” to: “Do you use chewing tobacco now?” or “Do you use snuff now?”	Active duty: 15.9% Recruits: 5.9%	Not applicable	
Cigrang, Severson, & Peterson (2002)	Gender, age, amount of ST used	Current: not further specified	100%	Not applicable	
Cooper et al. (2010)	None reported	Daily/regular: used regularly up to the beginning of BMT  Occasional: intermittent; used ST, but not every day  Experimental: used ST on 1-2 occasions  Former: used regularly but had quit in the past 6 months, quit between 6 months and 1 year ago, and quit more than 1 year ago	Light smokers: 2% daily/regular 5% occasional 24% experimental 4% former  Intermittent smokers: 7% daily/regular 7% occasional 22% experimental 4% former	Cigarette smokers who also use ST	Light smokers: 31% Intermittent smokers: 36%

*Note.* BMT, basic military training; ST, smokeless tobacco.

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**Table 1.** (Continued)

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Daly & Pierson (1990)	Gender, race/ethnicity, hometown population size, geographic region of origin, amount of ST used, frequency of ST use, length of ST use	Current: current use of ST (regardless of amount)	Chew users: 12.2% Snuff users: 9%	ST users who also smoke cigarettes	64.4% (all users included)
Ebbert et al. (2006)	Gender, race/ethnicity, age, marital status, education level	Experimental: chewed tobacco or snuff only on 1 or 2 occasions in the past	18.5%	Cigarette smokers who also use ST	54.6%
Fitzpatrick & Shannon (1992)	Gender	Current: not further specified	Aircrew: 19% Support personnel: 15%	Not applicable	
Forgas, Meyer, & Cohen (1996)	None reported	Current: not further specified	23.8%	Not applicable	
Grasser & Childers (1997)	Gender, age, rank, length of ST use, ST quitting intentions	Current: not further specified Former: not further specified	7% 7%	Users of both ST and cigarettes (primary product not identified)	7.9%
Grier, Knapik, Canada, Canham-Chervak, & Jones (2010)	Gender, rank, amount of ST used	Daily/regular: frequent users; used ST on at least 20 of 30 days prior to BCT Occasional: used ST in the 30 days prior to BCT	9.7% 4.5%	ST users who also smoke cigarettes	59.5% (daily/regular users) 68.6% (occasional users)
Haddock, Klesges, Talcott, Lando, & Stein (1998)	Gender	Current: not further specified	4.6%	Cigarette smokers who also use ST	4.6%

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**Table 1.** (Continued)

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Haddock et al. (2001)	Gender, race/ethnicity, age, marital status, education level, income level	Current: using ST at least once per day	5.1%	ST users who also smoke cigarettes	26.6%
		Former: past users; not further specified	2.5%		
Hepburn, Johnson, Ward, & Longfield (2000)	Education level, rank	Daily/regular: not further specified	7.3%	Not applicable	
Kao, Schneider, & Hoffman (2000)	Gender, age, rank	Daily/regular: heavy chewer; chewed approximately daily	1992 WHS: 8.9% daily/regular 8.7% occasional	Not applicable	
		Occasional: moderate chewer; chewed once per month to 5-6 days per week	14.4% experimental		
		Experimental: light chewer; chewed 1 to 11 days per year	1995 WHS: 9.5% daily/regular 8.8% occasional 18.1% experimental		
Kenny Regennitter, & Quigley (1996)	Gender, race/ethnicity, age, education level, amount of ST used, frequency of ST use, length of ST use	Daily/regular: used daily or almost daily	10%	Not applicable	
		Occasional: not further specified	7%		
		Experimental: tried ST; not further specified	24%		
		Former: formerly used it, but now no longer do so	9%		

*Note.* ST, smokeless tobacco; WHS, Worldwide Survey of Health Related Behaviors.

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**Table 1.** (Continued)

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Klesges et al. (2006)	None reported	Daily/regular: used regularly up to the beginning of BMT  Experimental: used on only 1-2 occasions  Former: used at least once per day, but had quit for at least 6 months before BMT	ST intervention: 71.5% daily/regular 28.4% former  Smoking intervention: 14.3% daily/regular 24.7% experimental 5.7% former  Prevention intervention: 9.6% experimental  Control: 7.1% daily/regular 17.4% experimental 2.5% former	Not applicable	
Klesges, Sherill-Mittleman, Ebbert, Talcot, & DeBon (2010)	None reported	Current: combined daily (used every day) and occasional (used but not used every day) use categories	3.7%	Users of both ST and cigarettes (primary product not identified)	4.8%
Knapik, Barson, & Reynolds (1999)	None reported	Daily/regular: not further specified	13.9%	Not applicable	
Lando, Haddock, Klesges, Talcott, & Jensen (1999)	Gender, race/ethnicity, age, education level, income level	Daily/regular: at least once per day; history of regular use up to entering BMT  Experimental: not further specified  Former: not further specified	4.6%  17.1%  3.6%	Cigarette smokers who also use ST	41.8% (among daily/regular users)

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**Table 1.** (Continued)

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Martin, Brown, Eifler, & Houston (1999)	Gender, age, amount of ST used, frequency of ST use, length of ST use	Current: a person who had used ST regularly (at least once per day), right up the point of starting BMT	9.9%	ST users who also smoke cigarettes	40%
McClellan, Olde, Freeman, Mann, Rotruck (1999)	Gender, age, rank, ST quitting intentions	Current: any ST use in the past 30 days Former: used ST one or more times more than 30 days ago	13.1% 30.6%	Not applicable	
Morgan (2001)	Gender	Current: not further specified	22%	Users of both ST and cigarettes (primary product not identified)	27%
Peterson et al. (2007)	Gender, race/ethnicity, age, marital status, education, rank, amount of ST used, frequency of ST use, length of ST use, ST quitting intentions	Current: not further specified	100%	ST users who also smoke cigarettes	20%
Reynolds, Williams, Miller, Mathis, & Dettori (2000)	Gender	Lifetime: ST use within the past year	43.1%	Not applicable	
Rice, Mays, & Gable (2009)	None reported	Current: ST use in the last 30 days	187 <sup>th</sup> medical battalion: 3% 232 <sup>nd</sup> medical battalion: 3%	Not applicable	
Severson et al. (2009)	Gender, race/ethnicity, age, marital status, education, rank, amount of ST used, frequency of ST use, length of ST use, ST quitting intentions	Current: not further specified	100%	ST users who also smoke cigarettes	20.2%

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**Table 1.** (Continued)

Study	ST user population variables reported	ST use level definition	ST prevalence %	Concurrent use definition	Concurrent use %
Shipley, Tresch, Tracey, & Wilcox (2002)	Gender, amount of ST used	Current: not further specified	9.6%	Not applicable	
Smith & Fiore (1999)	None reported	Current: not further specified	13.2%	Not applicable	
Sridhar et al. (2003)	Amount of ST used	Current: not further specified	50%	Not applicable	
Trent, Hilton, & Melcer (2007)	Gender, rank, frequency of ST use	Lifetime: used ST at least 20 times in lifetime	26.1%	Users of both ST and cigarettes (primary product not identified)	18.4%
Vander Weg et al. (2005)	Gender, geographic region of origin	Current: combined daily (chewed tobacco or snuff every day) and occasional (chewed tobacco or snuff occasionally, but not every day) use categories	.4%	Not applicable	
		Experimental: chewed tobacco or snuff only on one or two occasions in the past	6.6%		
		Former: chewed tobacco or snuff regularly (at least once per day), but quit in the past 6 months, between 6 months and one year ago, or more than a year ago	.2%		

*Note.* ST, smokeless tobacco.

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**Table 1.** (Continued)

ST use level definition	ST use level definition	ST use level definition	ST use level definition	ST use level definition	ST use level definition
Vander Weg, Klesges, & DeBon (2005)	None reported	Daily/regular: chewed tobacco or snuff every day	2.4%	Not applicable	
		Occasional: chewed tobacco or snuff occasionally, but not every day	1.2%		
		Experimental: chewed tobacco or snuff only on one or two occasions in the past	11.2%		
		Former: chewed tobacco or snuff regularly (at least once per day), but quit in the past 6 months, between 6 months and one year ago, or more than a year ago	1.5%		
Vander Weg et al. (2008)	Gender, race/ethnicity, age, marital status, education level, income level	Current: combined daily (used every day) and occasional (used but not used every day) use categories	6.7%	Not applicable	
		Lifetime: combined experimental (used ST only on one or two occasions in the past), regular (used at least once per day), and former (chewed tobacco or snuff regularly (at least once per day), but quit in the past 6 months, between 6 months and one year ago, or more than a year ago) use categories	26%		
Ward et al. (2003)	None reported	Daily/regular: used ST regularly and used right up to the point of entering BMT	4.1%	Cigarette smokers who also use ST	4.5%
Williams, Hermes, Gackstetter, Lando, & Fiedler (1996)	Gender, amount of ST used	Lifetime: history of ST use prior to entering BMT	7.9%	Users of both ST and cigarettes (primary product not identified)	8.3%

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