One-third of the world’s adult populations are smokers (47% of these being men, 7% women) and each year, tobacco causes 3.5 million deaths, or about 10,000 deaths each day. It is predicted that in 20 years, this yearly death rate from tobacco use will be more than 10 million people.\(^1\) Second hand smoke (SHS) or passive smoking is defined as ‘smoke inhaled by an individual not actively engaged in smoking but due to exposure to ambient tobacco smoke.’\(^2\) SHS increases risk of sudden infant death syndrome (SIDS or cot death), middle ear disease, asthma, respiratory disease, lung cancer and coronary heart disease. Hot smoke rises but tobacco smoke cools rapidly which stops its upward climb and starts to descend. A heavy smoker who smokes indoor causes permanent low lying smoke cloud that other house holders have no choice but to breath.\(^3\)

Global health body says that an estimated 165,000 children who die of smoke related respiratory infections; are mostly in Africa and South East Asia.\(^4\) In Pakistan, research shows that almost 70% of our children get exposed to SHS every day. The prohibition of smoking and protection of health of non-smokers ordinance was passed in Pakistan in 2002 but no attempt was made by government to educate public.\(^5\) WHO has urged Pakistan government to protect public from exposure to second hand smoke by implementing smoke-free-air policies in all enclosed public places.\(^6\)

In order to organize effective programs to salvage the health of our young age group regarding SHS, it is necessary to study effects of passive smoking commonly encountered by our youngsters as little work has been done on teenage group of school and college going age regarding the subject of SHS and propose effective program or policy so that the teenage community can be prevented from impact of passive smoking. Our research is, therefore, oriented to find the exposure rate of teenage group to SHS in our setup and to briefly study the different symptoms precipitated after exposure to SHS.

Descriptive cross-sectional study was conducted at Army Public School and College, Westridge III, Rawalpindi of 6 months duration (September 2012 till February 2013). There were 3000 students enrolled between the ages of 13 and 19 and sample size was estimated to be 500 using WHO sample size calculator, (with Confidence Level (CL) of 95%, Anticipated population proportion (P) of 0.05 and Absolute precision (d) of 0.02). Systematic random sampling was done. A sampling frame (list of the students) was obtained from the administration of the school. Five hundred sample size was the requirement out of 3000 so
3000/500=6. The first sample was obtained from the list numbering 1st till 6th by simple random sampling (lottery method). Then afterwards, every 6th individual was selected from the list till the required sample size i.e. 500 was achieved. Exposure to the passive smoke was considered when a teenager was exposed to cigarette smoke of another person. Data collection tool was close and open ended Questionnaire. Data was entered and analyzed in Statistical Package for Social Sciences (SPSS) version 20. Frequency and percentages were calculated to describe the qualitative variables. Chi-square test was applied to study the association between exposure of passive smoking and symptoms precipitated after exposure. P-value < 0.05 was considered as significant.

Five hundred students were selected for the study, out of which 279 (55.8%) had exposure to passive smoking while 221 (44.2%) were not exposed to passive smoking. Mean age of the exposed group was 15.06 ± 1.805. There were 132 (47.3%) males and 147 (52.7%) females in the exposed sample. When asked about the relationship who smokes in the exposed group, 87 (31.2%) were fathers, 5 (1.8%) were mothers, 45 (16.1%) were grandparents and 142 (50.9%) were some other relations. Out of the 279, 175 (62.7%) students were exposed to SHS every day, 4 - 6 days per week were 22 (7.9%), 3 days per week were 14 (5.0%) and less than 3 days per week were 68 (24.4%). One hundred and seventy five (62.7%) spend less than 1 hour while 51 (19.0%) spend 1 - 2 hours, 28 (10.0%) 3 - 4 hours and 25 (9%) spend more than 4 hours per day. About 189 (67.7%) were exposed to 1 - 2 cigarettes, 53 (19.0%) to 3 - 5 cigarettes and 37 (13.3%) to more than 5 cigarettes per day. Details are given in Table I.

After exposure to SHS, multiple responses were observed. Headache was present in 125 students with respect to SHS while in 154 no such complain was experienced (p=0.071). As nose irritation was present in 84, while 195 did not complain of it (p=0.002). Allergic symptoms were precipitated with SHS in 42, while not in 21 students (p < 0.001). Asthma attack was precipitated in 38, while 241 did not experience precipitation of asthma attack (p < 0.001). More cough was present in 168, while not in 111 students (p=0.037). Earache was positive in 20 students and not in 259 students (p < 0.001). Other symptoms were reported in about 11 students, while 268 did not report any other symptom (p=0.369). Detail of the symptoms precipitated by SHS is given in Figure 1.

Smoking is a major public problem concern the world over. It is one of the major preventable causes of premature death and disease in the world. Fourteen to seventeen year olds are among a vulnerable group of individuals in society and susceptible to cigarette smoking. The consumption of cigarettes in Pakistan was estimated at 90,000,000,000 cigarettes in 2005.
Parent and guardians shall recognise their tactics/ways for decreasing smoking in the home in and keep their children safe for exposure. Health education is very important in building their capacity to make their livings smoke free.

REFERENCES