Methods and Materials

Sierra Leone’s total population was divided into 9671 clusters or enumeration areas. Of these 9671 enumeration areas, 75 were randomly selected. Between January 9 and February 3, 2012, surveys were performed in the 75 enumeration areas. In each cluster 25 households were randomly selected for the survey. Students from the Sierra Leone Faculty of Nursing and Sierra Leone College of Medicine and Allied Health Sciences were trained to be enumerators. Data were collected with handheld tablets. The SOSAS has been previously described.1 A household representative was initially interviewed. Two randomly selected household members then underwent a head-to-toe verbal examination. Need for surgical care was based on participants’ responses to whether they had a head, face, or neck condition that they believed needed surgical assessment or care. A surgical procedure was defined as: wound care, suturing, incision, excision, or other manipulation of tissue, in a safe and painless way. A major surgery required general or regional anesthesia. A minor surgery used local anesthesia or required none.

Standard deviations were calculated for age (mean). A preliminary y² tests were used to determine statistically significant differences between groups (data not shown). Missing data from survey results were excluded from the calculations for that particular question.

Results

Data were collected and analyzed from 1843 households (of 1875 households, response rate of 98%) with 3645 total respondents. A H&N condition was reported in 18.8% (666) of the 3645 total respondents. 35 respondents reported more than 1 condition. The demographics were compared between respondents with a reported head and neck condition and those without (Table 1). The median age was higher (31 vs 25) in those with H&N problem. Of the conditions reported, 69% were current problems. 68.7% of the conditions had onset of >12 mos. The location of the conditions were reported with the head (34%) being the most common followed by eyes (23%), lips/mouth/dental (21%), neck (13%), and ear/face/nose/throat (9%) (Figure 2). The most common type of condition characterized was acquired deformity (32%), wound not related to injury (23%), wound related to injury (21%), mass/growth/gaiter (15%), burn (4.7%), and congenital deformity (4.3%).

Respondents sought health care from a doctor or nurse for 60% of the conditions reported. Of these, 40% received no surgical care, 7.4% of conditions were treated with a major procedure requiring anesthetic, and 52.3% had a minor procedure performed. Of the 701 conditions reported, 447 (63%) of the conditions did not have surgical care. This was due in part to lack of money for health care in 60% of respondents, followed by need for care (23.9%), no skilled doctor or nurse (7.2%), no trust in health facility (5.6%), no time (2.2%) and no money for transportation (0.4%) (Figure 3).

The respondents reported if the condition caused disability. 41.8% of the conditions were disabling in some form. The most frequent type of disability was not being able to work as they did before the condition (21.5%).

Discussion

Access to otorhinolaryngologists in developing countries remains limited. Particularly in sub-Saharan Africa, where many countries do not even have one otorhinolaryngologist, head and neck conditions are either treated by other medical providers or left untreated. The SOSAS results identify a high prevalence of untreated surgical head and neck conditions in Sierra Leone.

The most common reason reported for not seeking consultation for their problem because of no doctor or nurse. While this may suggest that the problem with untreated head and neck conditions is not related to a shortage of adequately trained medical professionals, this is unlikely the case. Even though the complexity of the problem is not known from the survey, the respondents may be unaware of current available medical expertise in their area. While many of these conditions could be adequately treated with the medical professionals nearby, it is possible that several problems would require a more highly trained provider than what is currently available in Sierra Leone. The survey does not answer this question.

The major weakness with this study is that it relies completely on a verbal interview with the participants in which conditions are self-reported. Ideally, a physical examination by a trained professional would correlate respondents’ complaints to confirm the presence of a true surgical condition. However, with financial limitations and logistical and ethical considerations, this was not possible. Many of these self-reported problems may not require surgery but only a consultation. These results may overestimate the actual prevalence of untreated head and neck disease. Regardless, at minimum, a consultation is warranted. On the other hand, recall bias may have led to underreporting of actual conditions, and the lack of physical examination may have missed other problems that were not self-reported.

Conclusions

The results of this countrywide survey reveal population-based estimates of significant untreated surgical disease of the head and neck in Sierra Leone. The findings also provide insight into why people with these conditions were not seeking medical care. This survey could be used in other developing countries as healthcare professionals assess surgical needs throughout the world and shape global health initiatives.

References