Knowledge, attitudes, and practices regarding wound care among general population in Aseer region

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ABSTRACT

Background: Wound care is observed to be one of the major challenges in the health-care system. Wound infection is one of the major issues in medical treatment. There is limited information regarding knowledge and attitude of patients regarding care of traumatic wound. This study was conducted to assess the knowledge, attitudes, and practices regarding wound care among general population in Aseer Region, Saudi Arabia. Materials and Method: This cross-sectional study was a questionnaire-based study conducted on general population from time period from September 2020 to November 2020. The demographic data collected were age, gender distribution, marital status, residence, job profile, income, education, habit of smoking and any comorbidities. To analyze the knowledge, attitude and practice of general population regarding wound care, 28 well-constructed questions were framed and asked. The response to all these questions was recorded and subjected to statistical analysis. Results: A total of 897 participants were included in the study. In total, 56.74% subjects of age group 41–60 years of age. In around 80% participants, no co-morbidities were observed. Around 29% participants had previous experience of surgical wound, with most common wound site being abdomen. The most common symptom in around 58% participants was excessive bleeding. Use of Alcohol swab and dry gauze were commonly used by participants as wound care measures. Conclusion: We observed that knowledge, attitude and practices followed by patients were not up to the standard. As patients’ knowledge, good attitude and practices are important in implementing newer management technique; thus, we advice to take necessary steps to improve the attitude and knowledge of general public.

Keywords: Aseer, attitude, general population, knowledge, practices, wound care

Introduction

Wound injury is a frequent event with the incidence of up to 50 million people reported worldwide till 2015.¹ In emergency departments (ED), more than 6 million lacerations are treated each year in the United States.² Most common cause of wound injury is road traffic accidents, systemic problems like Diabetes mellitus, etc. Inappropriate management of wound injuries can affect health of individuals. Worldwide around 10% of mortality and 12% of morbidity has been reported with wound Injuries.³

Wound care is observed to be one of the major challenges in the health-care system. Wound infection is one of the major issues in medical treatment. There is limited information regarding knowledge and attitude of patients regarding care of traumatic wound. Nowadays, it is required that patients should know how to take care of wound injuries. Pieper B, et al.⁴ has observed that around 38.2% to 58.7% of patients returning from hospitals did not know how to take care of their wounds. If the wound is not properly taken care of at home, it can get infected (3% to 15%).⁵

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Different etiological factors causing wound infection are poor general health, smoking, and corticosteroid. Various signs and symptoms of wound infection are swelling, pain, fever and purulent exudate.[6] Patients with inadequate knowledge about wound care can lead to consequences like healthcare burden, financial impact and reduced quality of life. Social networking is playing an important role in increasing awareness among patients related to effect of various factors on wound healing. Very limited studies are available in the literature, regarding assessment of knowledge and attitude of patients about caring wound injuries.[4,7]

Thus, this study was conducted to assess the knowledge, attitudes, and practices regarding wound care among general population in Aseer Region, Saudi Arabia.

**Materials and Method**

This cross-sectional study was a questionnaire-based study conducted from time period from September 2020 to November 2020. The self-administered structured questionnaire was used to assess the demographic variables, information regarding factors affecting wound healing and wound care. Validity of questionnaire was assessed and was observed to be appropriate ($\alpha = 0.84$). The study was conducted in accordance with the Declaration of Helsinki and was approved by the local ethics committee of the institute (ECM#2020-1210). Informed written consent was obtained from all patients prior to their enrollment in this study. The demographic data collected was age, gender distribution, marital status, residence, job profile, income, education, habit of smoking and any comorbidities.

To analyze the knowledge, attitude and practice of general population regarding wound care, 28 well-constructed questions were framed and asked. The response to all these questions was recorded. General characteristics like type, site, source, signs and symptoms of wound care, were recorded by asking questions with different options. Various factors affecting wound care were analysed by asking questions with three options of “agree”, “disagree” and “don’t know”.

The data obtained was subjected to statistical analysis using IBM SPSS version 20.0 software. Descriptive statistics i.e. mean, standard deviation, frequencies and percentages were computed.

**Results**

Demographic data was recorded in terms of age, gender distribution, marital status, residence, job profile, income, education, habit of smoking and any co-morbidities [Table 1]. A total of 897 participants were included in the study. 56.74% subjects of age group 41-60 years of age. 92.084% subjects were of Aseer region. Maximum number of participants 39.353% were civil servants and 51.17% subjects were with bachelor's education, habit of smoking and any comorbidities.

Table 2 shows the responses to 28 questions asked to access the knowledge, attitude and practices followed by general population for wound care. Around 29% participants had previous experience of surgical wound, with most common wound site being abdomen. Most of the participants, got immediate wound care after getting injured. The most common symptom in around 58% participants was excessive bleeding. Most of the 88.0713% were non-smoker. In around 80% participants, no co-morbidities were observed. The most common was diabetes mellitus, followed by hypertension, asthma, arthritis etc.

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Table 2: Response to questions

| Parameters                                                                 | Options                        | No. of subjects | Percentage |
|---------------------------------------------------------------------------|--------------------------------|-----------------|------------|
| If you have previous experience with wound care, what is the type of the wound? | Accident                      | 57              | 6.354515   |
|                                                                           | Cut                            | 252             | 28.09365   |
|                                                                           | Episiotomy                     | 86              | 9.587514   |
|                                                                           | Diabetic wound                 | 8               | 0.891862   |
|                                                                           | No thing                       | 257             | 28.65106   |
|                                                                           | Surgical wound                 | 262             | 29.20847   |
|                                                                           | Ulcer                          | 73              | 8.138239   |
|                                                                           | Burn                           | 3               | 0.334448   |
| Site of wound                                                             | Abdomen                        | 143             | 15.94203   |
|                                                                           | Thigh/leg                      | 24              | 2.675585   |
|                                                                           | Ass                            | 1               | 0.111483   |
|                                                                           | Back                           | 9               | 0.033444   |
|                                                                           | Bikini area                    | 61              | 6.800446   |
|                                                                           | Chest                          | 11              | 1.22631    |
|                                                                           | Face                           | 71              | 7.915273   |
|                                                                           | Neck                           | 7               | 0.780379   |
|                                                                           | Hand                           | 37              | 4.124861   |
|                                                                           | I didn’t suffer from any wounds| 229             | 25.52954   |
|                                                                           | After 1 week                   | 25              | 2.787068   |
|                                                                           | I didn’t suffer from any wounds| 229             | 25.52954   |
|                                                                           | Immediately                    | 486             | 54.1806    |
|                                                                           | No response                    | 38              | 4.236343   |
|                                                                           | Within 1-3 days                | 91              | 10.14493   |
|                                                                           | Within 4-7 days                | 14              | 1.560758   |
| Time elapsed between the incidence of wound and receiving primary medical care: | Broad or deep wound           | 172             | 19.17503   |
|                                                                           | Excessive bleeding             | 525             | 58.32843   |
|                                                                           | Foreign body at the site of a wound | 22             | 2.45262   |
|                                                                           | Head injury                    | 2               | 0.222965   |
|                                                                           | If symptoms of infection occur | 105             | 11.70569   |
|                                                                           | If the cause of the wound was a bite or an injury from a dirty or rusty object, If symptoms of infection occur | 24 | 2.675585 |
|                                                                           | No                             | 42              | 4.682274   |
|                                                                           | Surgery                        | 6               | 0.668896   |
| Source of home wound care information                                      | 937-moh hotline.              | 49              | 5.462653   |
|                                                                           | Brochure                       | 51              | 5.685619   |
|                                                                           | Health awareness campaign      | 69              | 7.692308   |
|                                                                           | Healthcare workers             | 437             | 48.71795   |
|                                                                           | Internet                       | 43              | 4.793757   |
|                                                                           | Media (newspaper, TV)          | 48              | 5.351171   |
|                                                                           | Relatives and friends          | 135             | 15.05017   |
|                                                                           | Social media (Headbook, whatsapp) | 45             | 5.016722   |
| Good nutrition is necessary for wound healing                             | Agree                          | 830             | 92.53066   |
|                                                                           | Disagree                       | 11              | 1.22631    |
|                                                                           | I Don’t know                   | 56              | 6.243032   |
| Hands should be washed prior to changing wound dressing                    | Agree                          | 878             | 97.88183   |
|                                                                           | Disagree                       | 10              | 1.114827   |
|                                                                           | I Don’t know                   | 9               | 1.003344   |
| Wounds may prevent individuals from leaving the house                       | Agree                          | 194             | 21.62765   |
|                                                                           | Disagree                       | 574             | 63.99108   |
|                                                                           | I Don’t know                   | 129             | 14.38127   |
| Bad odor observed in infected wounds is caused by bacteria                 | Agree                          | 713             | 79.48718   |
|                                                                           | Disagree                       | 19              | 2.118172   |
|                                                                           | I Don’t know                   | 165             | 18.39465   |
| It is best to quickly pull the tape off the skin                            | Agree                          | 160             | 17.83724   |
|                                                                           | Disagree                       | 563             | 62.76477   |
|                                                                           | I Don’t know                   | 174             | 19.39799   |

Contd...
Table 2: Contd...

| Parameters                                                                 | Options          | No. of subjects | Percentage |
|---------------------------------------------------------------------------|------------------|-----------------|------------|
| Smoking may negatively affect wound healing                              | Agree            | 556             | 61.98439   |
|                                                                           | Disagree         | 78              | 8.695652   |
|                                                                           | I Don’t know     | 263             | 29.31996   |
| Antibiotics are essential for wound healing                               | Agree            | 584             | 65.10591   |
|                                                                           | Disagree         | 160             | 17.83724   |
|                                                                           | I Don’t know     | 153             | 17.05686   |
| Simple (superficial) wounds do not require treatment                      | Agree            | 329             | 36.67781   |
|                                                                           | Disagree         | 460             | 52.2854    |
|                                                                           | I Don’t know     | 99              | 11.03679   |
| Perfumes may worsen wounds                                                | Agree            | 526             | 58.63991   |
|                                                                           | Disagree         | 155             | 17.27982   |
|                                                                           | I Don’t know     | 216             | 24.08027   |
| Wound care is best performed by someone else other than the wounded individual | Agree            | 515             | 57.4136    |
|                                                                           | Disagree         | 282             | 31.43813   |
|                                                                           | I Don’t know     | 100             | 11.14827   |
| Topical application of honey is beneficial for wound care                  | Agree            | 410             | 45.70792   |
|                                                                           | Disagree         | 202             | 22.51951   |
|                                                                           | I Don’t know     | 285             | 31.77258   |
| Taking shower may delay wound healing                                     | Agree            | 372             | 41.47157   |
|                                                                           | Disagree         | 277             | 30.88071   |
|                                                                           | I Don’t know     | 248             | 27.64771   |
| Salted water has an anti-inflammatory effect                               | Agree            | 423             | 47.15719   |
|                                                                           | Disagree         | 156             | 17.3913    |
|                                                                           | I Don’t know     | 318             | 35.45151   |
| Exposure of wounds to fresh air aids in the healing process               | Agree            | 551             | 61.42698   |
|                                                                           | Disagree         | 153             | 17.05686   |
|                                                                           | I Don’t know     | 193             | 21.51616   |
| Incense may delay wound healing                                           | Agree            | 330             | 36.7893    |
|                                                                           | Disagree         | 245             | 27.31327   |
|                                                                           | I Don’t know     | 322             | 35.89744   |
| Topical application of home remedies such as mixed dough (Sabkha) has an anti-inflammatory effect | Agree            | 170             | 18.95206   |
|                                                                           | Disagree         | 345             | 38.46154   |
|                                                                           | I Don’t know     | 382             | 42.5864    |
| Vaseline is beneficial for reducing wound scars                            | Agree            | 263             | 29.31996   |
|                                                                           | Disagree         | 260             | 28.98551   |
|                                                                           | I Don’t know     | 374             | 41.69454   |
| Tetanus toxoid injection is necessary when you get injured?               | Agree            | 411             | 45.8194    |
|                                                                           | Disagree         | 97              | 10.81382   |
|                                                                           | I Don’t know     | 389             | 43.36678   |
| Coffee beans are beneficial for bleeding control                          | Agree            | 218             | 24.30323   |
|                                                                           | Disagree         | 226             | 25.15909   |
|                                                                           | I Don’t know     | 453             | 50.50167   |
| Using Zamzam water to wash wounds may shorten the recovery time           | Agree            | 170             | 18.95206   |
|                                                                           | Disagree         | 234             | 26.08696   |
|                                                                           | I Don’t know     | 493             | 54.96098   |
| If you get injured at home, what would you do first?                      | Apply antibiotics ointment , Go to the hospital | 12   | 1.337793 |
|                                                                           | Clean the wound  | 96              | 10.70234   |
|                                                                           | Cover the wound, Go to the hospital | 37 | 4.124861 |
|                                                                           | Go to the hospital | 77 | 8.584169 |
|                                                                           | Stop the bleeding | 675 | 75.25084 |
| what is the Dressing used at home?                                        | Cotton           | 45              | 5.016722   |
|                                                                           | Plaster          | 267             | 29.76589   |
|                                                                           | Dry gauze        | 588             | 65.55184   |
|                                                                           | Wet gauze        | 123             | 13.71237   |
|                                                                           | Towel            | 54              | 6.020067   |
| Solutions used to clean wounds at home                                   | Alcohol swab     | 391             | 43.58974   |

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participants got information about home wound care through health-care workers. Most of the participants agree with the fact that good nutrition and hand hygiene was essential for wound care. Many participants agree with the fact that smoking, perfume, honey, salted water, incense, tetanus toxoid and use of antibiotics can affect wound healing. Most of the participants did not believe in the use of Sabkha, Vaseline, coffee beans, and Zamzam water for wound healing. Use of Alcohol swab and dry gauze were commonly used by participants as wound care measures.

**Discussion**

A wound can be defined as disruption or damage to the normal anatomical structure thus interrupting physiological functions.[9] Normal wound healing is a complex and dynamic process that involve a series of events, including bleeding, coagulation and initiation of an acute inflammatory response in relation to the initial injury. The inflammatory response initiates the process of regeneration, migration and proliferation of connective tissue and parenchyma cells, that in turn starts the synthesis of extracellular matrix proteins. Then, the deposition of collagen; and remodelling of new parenchymal and connective tissue starts.[10]

Wound healing always remains a demanding clinical problem. An infected wound because of inadequate knowledge regarding wound care can increase damaging effects to patient and society. Disparity caused by infected wound can lead to reduction in functioning of individual, thus reducing his earning capacity. This directly and indirectly affects the overall health-care cost of country, thus affecting economy.

It has been observed that wound infection is common cause of morbidity and mortality among general population. Thus, an efficient management is required for proper healing of wound.[10] It is essential that general public should have adequate knowledge and awareness with safe practices regarding wound care.[11] Nowadays efforts have been made in educating general population about home wound care, so that consequences of wound infection can be avoided.

We observed very few research studies regarding assessment of attitude and knowledge of general population regarding wound care. Thus, this study was conducted to evaluate the knowledge, attitude, and practices of general population in relation to wound care.

In our study most of the participants were females. Similar finding was observed in a study by Agale SV in 2013,[12] done in Iorland which showed that the proportion of the women were twice more likely to be affected than men. In our study surgical wound was most prevalent and site of wound was abdomen. The results were in contrast to study by Kumarasinghe SPW et al. 2004[13] who found that diabetic wound was most common, with foot being the most common site.

It was observed that any treatment is successful if patient compliance is good. Coyer et al.[14] in 2005 advocated that inadequate knowledge of patients regarding wound care can directly affect the success of treatment. Therefore it is highly important to assess the knowledge and attitude of patients regarding wound care so that we can take steps to improve their knowledge if it is lacking.[14]

We observed that many patients in our study lack the adequate knowledge regarding factors affecting the wound care and how to manage them adequately. Thus we must take necessary steps to educate general population regarding wound care and what kind of practices they have to follow at home after surgical interventions.

**Conclusion**

Various types of wounds have been observed in general population in our study. The most common being surgical wound. We assessed knowledge and attitude of general public and practices they follow for wound care. In our study, knowledge, attitude and practices followed by patients were not up to the standard. As patients’ knowledge, good attitude and practices are important in implementing newer management technique, thus we advice to take necessary steps to improve the attitude and knowledge of general public.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.
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**Conflicts of interest**
There are no conflicts of interest.

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